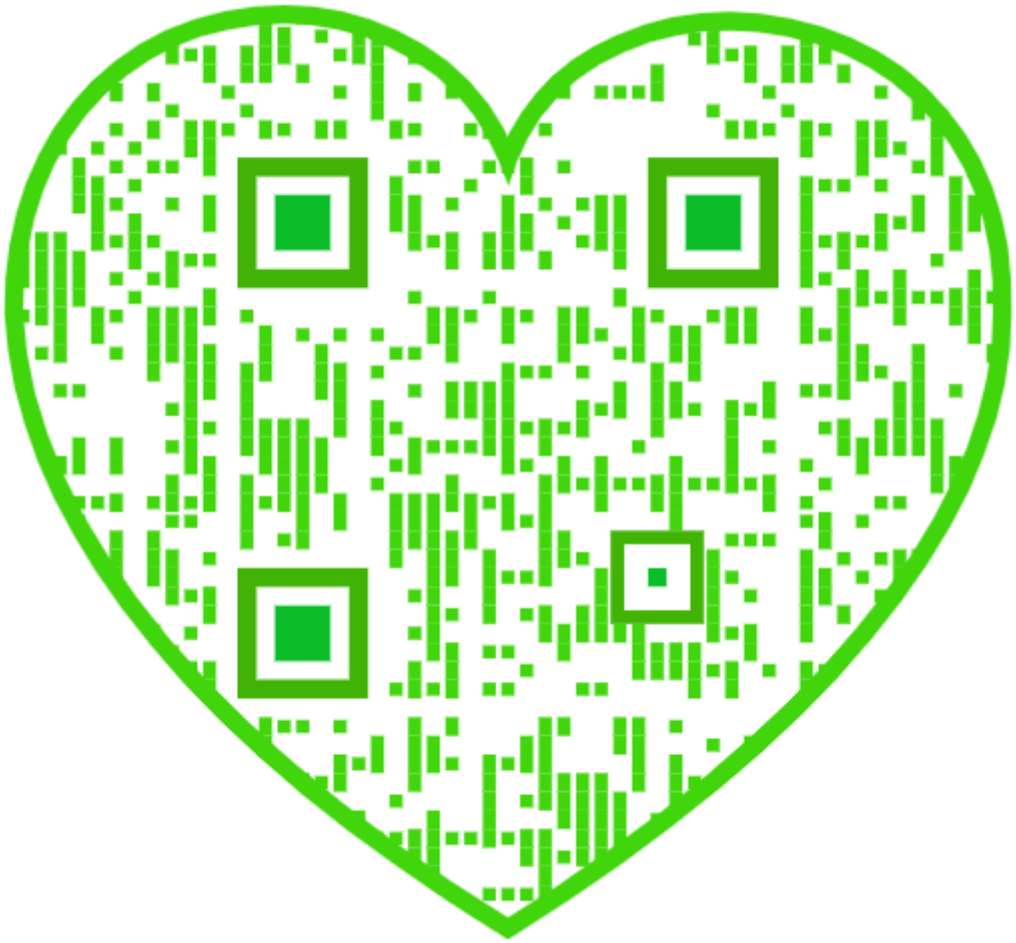

THE ARCHITECT AND ENGINEER

OCTOBER, 1931

IMPORTANT ANNOUNCEMENT

★ ★ ★ ★

to building owners and managers

BY OTIS ELEVATOR COMPANY

At a "round-table meeting at the Convention of the National Association of Building Owners and Managers last year, it was agreed that the elevators should get first consideration in any building modernization project. Here's why:

Elevators are the source of first and last impressions of every building. If elevators are antiquated, the age of the building is very definitely forced upon the attention of every one . . . especially the prospective tenant.

It is because of this urgent need for elevator modernization in many buildings today that Otis has instigated the Otis Modernization Survey Service! This Service embraces an engineering survey of any building using elevators, no matter where it is located. From the Survey, a detailed report is made to the building owner or manager, together with recommendations and estimates of cost of modernizing the elevators from top to bottom. The Service is FREE!

The last few years have brought many major improvements in elevators . . . improvements of which the public is fully conscious. If your elevators are not in accord with modern standards, get in touch with the nearest Otis office.

The Otis Modernization Survey Service is yours for the asking. The Service report will tell you whether or not it is necessary to replace some of the major parts or merely to change minor features . . . and whether it will pay you to do so.

★ ★ ★

One more point! If your building needs revisions other than in elevator-equipment, call in your architect. You will find him prepared to give you a full report on what your building should have to bring it up to date and put it on a competitive basis with new and modern structures.

OTIS

ELEVATOR COMPANY

339 OFFICES THROUGHOUT THE WORLD

★ This is a reproduction of the full-page Otis advertisement appearing in current issues of publications read by building owners, managers, superintendents and engineers. We believe that modernization offers a wide and legitimate field of architectural and building activities during this period when new construction is slow.

Thumb Tacks and T-Square

H. Roy Kelley, architect, of Los Angeles, whose houses were illustrated in THE ARCHITECT AND ENGINEER last month, is a member of the President Conference on Home Building and Home Ownership. Mr. Kelley's wide experience in domestic architecture should make him a valuable member of the President's committee, whose mission is to study existing conditions governing home building and home ownership, with a view to submitting recommendations for the elimination of some of the obstacles that discourage home ownership by people with small incomes. It is universally agreed that the difficulties in obtaining small homes of character and good construction, the economic waste, the inefficiency involved in the construction, difficulties of financing, high interest rates, excessive brokerage fees, and other carrying costs, form a basis of discouragement rather than encouragement toward home ownership with people of moderate income.

"Our studies have shown," writes Mr. Kelley, "that based on a reasonable ratio of income in normal times the average working man in America cannot afford to have more than a total investment of $5,000 in his home. We also find that more than 90% of small homes are not planned or built by the individual home owner but are purchased after completion, or in some cases during construction. They are built usually by speculative builders, real estate promoters and others whose chief interest is building for sale, and they are not always interested in matters of character and quality."

⁂ ⁂ ⁂

THE rentable and resale value of good looking, well designed buildings is emphasized by William Orr Ludlow, architect, who declares that despite the fact that this is a machine age, beauty in buildings is as desirable as ever. Public demands have changed in many other respects, he says, but the owner of even the strictly utilitarian building is more insistent upon attractive construction than ever before.

"While strict economy is still essential, the owner of a factory, for instance, now understands more of the psychological effect on his employees of pleasant surroundings," according to Mr. Ludlow. "The engineer who makes his bridges, factories, or waterworks attractive in appearance is going to give the owner a much larger share of satisfaction in the accomplished work, and, further, he is creating something of permanent advertising value to himself.

"For those who would argue the matter, pointing out what 'plain stuff' some of the modernistic architects themselves are designing, let them stop to realize that the real designer does not need cornices, pilasters or ornament. He gets beauty from its fundamental sources, good mass and proportion, pleasing silhouette, harmonious color, and a fitness of design to purpose.

"Let none be misled by the lot of worthless stuff recently put on the architectural market. It has not been done by real architects but by men who mistook novelty for beauty, who, scorning everything traditional, have used lightening strokes, acute angles and bizarre geometric patterns ad nauseum. All this has been copied and duplicated because it is supposed to express modern art. Modern expression in architecture that has real and enduring artists value is exemplified in the Empire State and the New York Telephone buildings.

"Buildings of today are the products of the architect and the engineer working together. Because of their co-operative accomplishment, the world stands amazed at structures almost unbelievable in height, beauty and usefulness.

"To the architect falls the part of the original conception of the structure in its mass, proportion, profile, and embellishment. The notion that this is all the architect does seems to persist in some minds, although the idea is a relic about forty years old.

STAY YOUNG

Youth is not a time of life—it is a state of mind. It is a temper of the will, a quality of the imagination, a vigor of the emotions. Youth means a predominance of courage over timidity, of the appetite of adventure over love of ease. Nobody grows old by merely living a number of years; people grow old only by deserting their ideals.

Worry, doubt, self-distrust, fear and despair —these bow the head and turn the spirit back to dust. Whether seventy or sixteen, there is in every being's heart the love of wonder, the sweet amazement at the stars, the undaunted challenge of events, the unfailing, childlike appetite for what next, and joy in the game of life.

You are as young as your faith, as young as your self-confidence, as old as your despair. In your heart, there is a wireless station; so long as it receives messages of beauty, hope, cheer, courage, grandeur and power, from the earth, from men and from the Infinite, so long are you young.—*Exchange.*

"The fact is that good mass, proportion, profile, all depend on plan, and planning is one of the most exacting of practical problems, involving a thousand considerations of usage, financial return on investment, building laws, economic use of material and space, sound construction, and adequate equipment and furnishing."

⁂ ⁂ ⁂

Referring to the "depression" on which the country seems to be fairly well sold, and a possible cure, Roger W. Babson, noted economist, says: "I see advertising as the means to start the ball rolling—good, honest, efficient advertising, showing the buyer where he can get a good dollar's value for every dollar he spends. The manufacturer has taken the recess period to make his product right both in price and quality—now let him tell about it!"

⁂ ⁂ ⁂

And speaking about advertising, Ralph Hitz, of New York, writes:

"If every large advertiser would increase his advertising appropriation 25 per cent and start spending it at once — whole-heartedly and joyously — prosperity would be upon us in no time."

Mr. Hitz calls business depression "the most successfully advertised institution in the United States today."

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1931

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Chester Cole, Architect; Louis L. Brouchoud

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OAKDALE ELEMENTARY SCHOOL, CHICO, CALIFORNIA

CHESTER COLE, ARCHITECT; LOUIS L. BROUCHOUD

THE ARCHITECT AND ENGINEER

OCTOBER 1931
VOLUME 107
NUMBER ONE

SOME RECENT SCHOOLS AND OTHER WORK BY CHESTER COLE AND L. L. BROUCHOUD

by B. J. S. CAHILL, Architect

A NOTABLE feature of this strangely changing world we live in, is the gradual disappearance of the distinctions between big town and small town life as conveyed usually in the words urban and rural. This, of course, is more noticeable in America than in Europe. It is in vain for sentimental writers like Chesterton to deplore the complete absence of "the village" in the United States. The conditions that produced the village do not obtain any longer. Consequently, our small towns are composed of exactly the same stuff or fabric as our large towns. The citizens who propose to build a modern hotel in a small town, and no other kind is thinkable, will not, it is a safe bet, give one moments thought to the question of making it countrified or rural. No, they will want it as citified as possible with ice water on tap in every room and bell hops with brass buttons! And of course the same holds with regards to school, libraries, store buildings and homes. In the same way with the modern system of production and distribution, the stores of a small town carry precisely the same stock as the big stores—with perhaps less variety and a lower price range.

Country towns therefore differ from cities merely in size or quantity, not in quality. Of course, in older established communities, such as we find in New England and the South, the old order still persists. But what the West is now, the whole country will become later.

This has a direct bearing on architecture and its practice which I think has not been realized, more especially as I find myself still thinking of country architecture and architect as distinct from the city variety. Our younger men in too many instances, have suffered under the same illusion and have clung to the cities where competition is keen, and neglected the small towns where opportunities are more abundant.

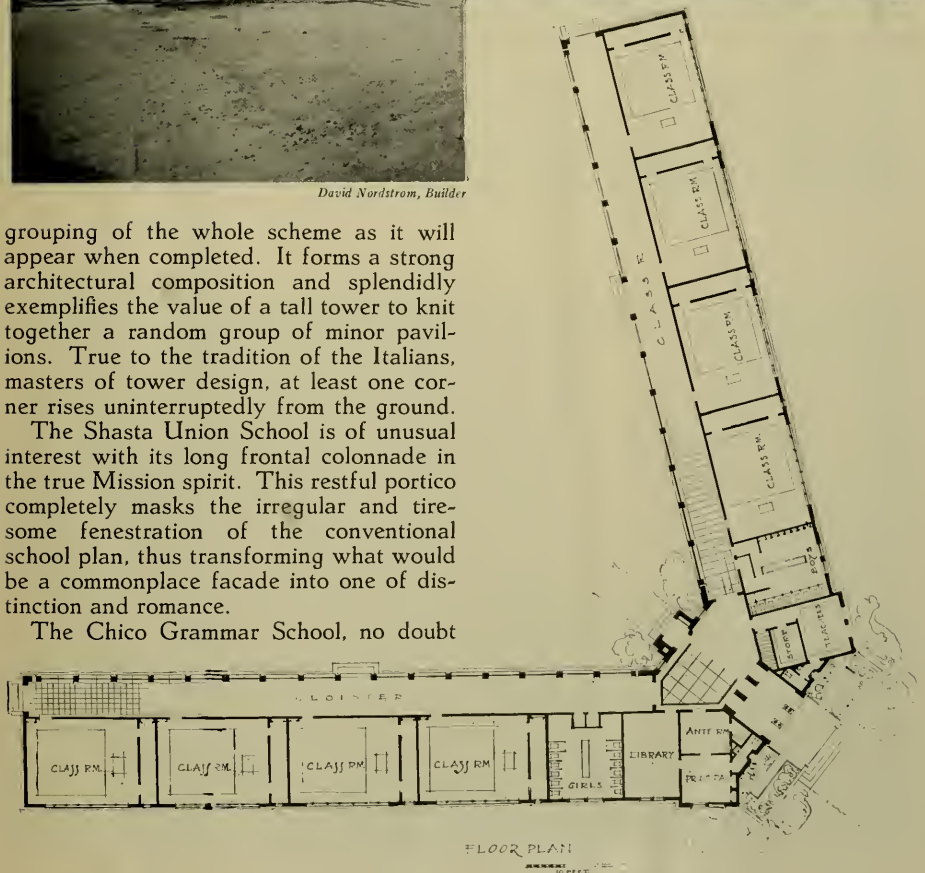
The work we are showing comes from architects who have seen the opportunities for practice in a small town, although equipped by skill and training for work of the utmost sophistication. This work consists broadly of schools, residences and War Memorials, which we shall discuss in order.

Chico is one of the towns of California supporting a State Normal School and Teachers College, consequently the plans are in the hands of the State Architectural Bureau at Sacramento. However, one annex of this rather large group, the Library, was turned over to the private firm of Cole & Brouchaud and the charcoal perspective and plans herewith reproduced, show the

SCHOOL BUILDING, OROVILLE, CALIFORNIA
Chester Cole, Architect; Louis L. Brouchoud

DETAIL, SCHOOL BUILDING, OROVILLE
Chester Cole, Architect; Louis L. Brouchoud

David Nordstrom, Builder



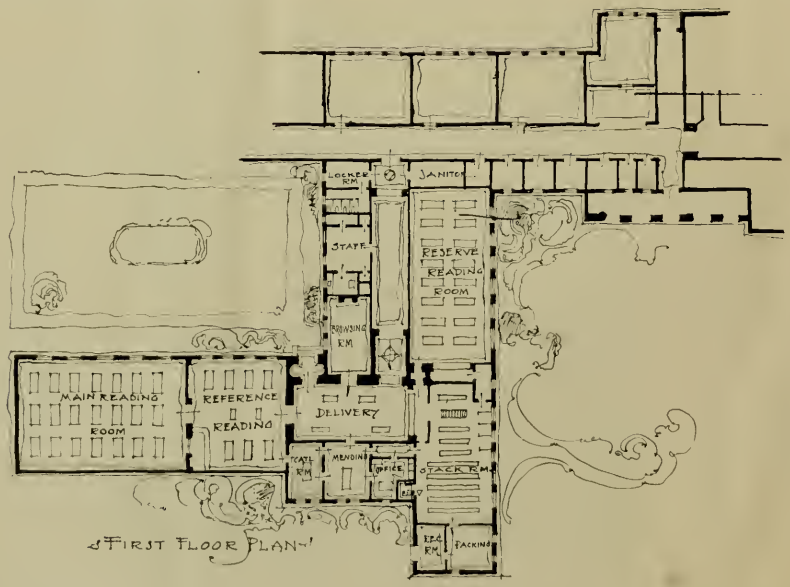
GENERAL VIEW AND PLAN, OAKDALE SCHOOL, CHICO, CALIFORNIA
Chester Cole, Architect; Louis L. Brouchoud

grouping of the whole scheme as it will appear when completed. It forms a strong architectural composition and splendidly exemplifies the value of a tall tower to knit together a random group of minor pavilions. True to the tradition of the Italians, masters of tower design, at least one corner rises uninterruptedly from the ground.

The Shasta Union School is of unusual interest with its long frontal colonnade in the true Mission spirit. This restful portico completely masks the irregular and tiresome fenestration of the conventional school plan, thus transforming what would be a commonplace facade into one of distinction and romance.

The Chico Grammar School, no doubt

LIBRARY, STATE TEACHERS' COLLEGE, CHICO, CALIFORNIA
Chester Cole, Architect; Louis L. Brouchoud

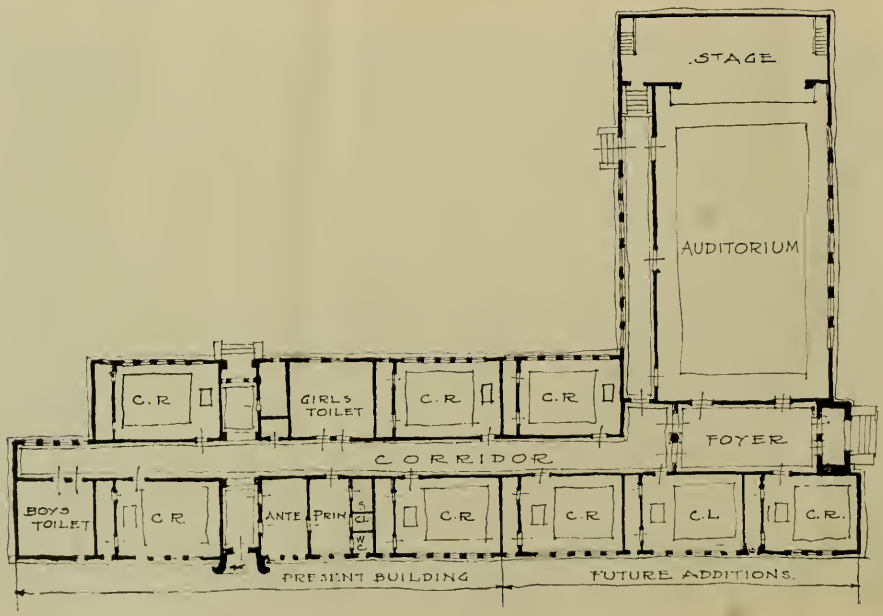


PLAN, LIBRARY, STATE TEACHERS' COLLEGE, CHICO, CALIFORNIA
Chester Cole, Architect; Louis L. Brouchoud

RELIC BUILDING FOR NATIVE SONS & DAUGHTERS, OROVILLE, CALIFORNIA
Chester Cole, Architect; Louis L. Brouchoud

SHASTA UNION SCHOOL, CHICO, CALIFORNIA
Chester Cole, Architect; Louis L. Brouchoud

LINDEN GRAMMAR SCHOOL, CHICO, CALIFORNIA
Chester Cole, Architect; Louis L. Brouchoud



PLAN, LINDEN SCHOOL BUILDING, CHICO, CALIFORNIA
Chester Cole, Architect; Louis L. Brouchoud

DETAIL OF ENTRANCE, LINDEN SCHOOL, CHICO, CALIFORNIA
CHESTER COLE, ARCHITECT; LOUIS L. BROUCHOUD

by reason of its orientation, has to express itself otherwise, the outer window and door scheme explaining frankly the disposition of class and service rooms, as well as the internal anatomy and circulation. This is done with restrained good taste, an unusual feature being a colored stencil design along the whole front freize.

The Oakdale Elementary School also expresses its inner function by its outer gabled ends of return wings, with stone effects of Gothic style where the accent of attention would fall most naturally. These features evidently aim to bring out the picturesque feeling rather than the purity of form of any particular period of this style.

The Laurence Kennedy residence at Redding interests us because it carries the Southern style of design farther north than

VETERANS' WAR MEMORIAL, WILLOWS, CALIFORNIA
Chester Cole, Architect; Louis L. Brouchoud

form conveyed in classic details of remarkable refinement.

Los Molinos School, in Tehama County, features the main assembly or auditorium as a dominating high ceilinged central pavilion flanked by gabled entrances and school rooms, the whole done in white-jointed brick with interesting bond and buttress effects and brick archivolts over all circular headed doors and windows—all done in something of the classic spirit.

The Oroville School, also with a brick exterior, has a rather featured entrance in the center of a long pavilion flanked by the is usual, while the Carlton Gray residence shows the possibilities of brick construction in domestic architecture.

The War Memorials at Willows and Chico reflect evidence of very careful renaissance design, a blend of utility and elegance such as McKim, Meade and White set as the standard of American work. The former, with its bold tuscan peristyle is truly imposing and a fine example of a classic order so useful in forming the tastes of succeeding generations, upon the immortal forms handed down to us from antiquity.

DETAIL, WAR MEMORIAL, WILLOWS, CALIFORNIA
CHESTER COLE, ARCHITECT; LOUIS L. BROUCHOUD

VETERANS' WAR MEMORIAL, CHICO, CALIFORNIA
Chester Cole, Architect; Louis L. Brouchoud

RESIDENCE OF LAURENCE KENNEDY, REDDING, CALIFORNIA
Chester Cole, Architect; Louis L. Brouchoud

RESIDENCE OF CARLTON GREY, OROVILLE, CALIFORNIA
Chester Cole, Architect; Louis L. Brouchoud

RESIDENCE OF CARLTON GREY, OROVILLE, CALIFORNIA
Chester Cole, Architect; Louis L. Brouchoud

COMPETITION FOR A ROADSIDE AUTO CAMP AT SANTA BARBARA

THE Plans and Planting Branch of the Community Arts Association of Santa Barbara is working in behalf of the ever increasing numbers who travel the highways for pleasure to improve the character of commercial buildings near towns and on the rural highways. The Association, with other organizations, is trying to discover ways of using bits of highway frontage for business without destroying the agreeable qualities of the route.

It is frequently remarked that the highways of California are fast becoming lined with cheap and unsightly commercial establishments; that the ones of interesting and charming appearance are few and far between; that most of these buildings seem to have been built on the installment plan, bit by bit, and rarely serve their purpose most efficiently and with the least possible offense to the eye. It is true that architects have heretofore been seldom called on work of this kind and the owners of these establishments have had little good material to help and guide them.

Surveys show that the roadside auto camp, usually accompanied by a service station and a small store or refreshment stand, is a very common element in the commercial use of the highway. The Association is of the opinion that there are architectural and artistic possibilities in the design of these structures and that much improvement might be made in the appearance and convenience of such commercial groups by (1) a better general arrangement or group building layout, (2) a more satisfactory design of store buildings and other elements of the group that face directly on the highway, (3) a better planning of individual cabins and auto camp structures, including service units, (4) the use of properly proportioned and distinctive advertising devices rather than innumerable small or large, spectacular signs, (5) use of construction sufficiently permanent to avoid the drawbacks of rapid depreciation, (6) the improvement of planting and general landscape treatment of the grounds.

It is believed that there have been no previous competitions of this kind, though there was a most effective competition in 1928 for wayside refreshment stands and gas stations designed for New York and New England, sponsored by the American Civic Association and Art Center.

The Association has, therefore, undertaken to sponsor a competition in the hope of securing designs for commercial groups which will provide suggestions and encouragement to owners and builders of these essential enterprises.

This competition offers to architects and engineers of California an unusual opportunity to make a constructive contribution to the betterment of their state. The auto camps as used every year, not only by great

numbers of Californians exploring their own state, but by thousands of newcomers who get their first impressions of California from temporary residence in them are, investigation has shown, used in some instances as permanent homes. This competition for the improvement of auto camp design, therefore, has a social as well as an aesthetic significance.

From what has been said above it may as well be seen that those who enter this competition are offering their services in a work of considerable value to the state. They are providing inspiration and suggestion for builders who would not otherwise use the services of an architect. Their work may lead to the provision of better housing for those who live for at least several months each year in auto camps. They may show that even the cheapest and simplest materials, when worked into a building with correct proportions and a clever designer's eye, can add delightful effects to our roadsides. This competition, when completed, is not expected to revolutionize the commercial aspect of our highways, but it is hoped that it will focus attention upon this important phase of the highway development problem, and encourage improvement in the appearance of existing structures, as well as interesting prospective builders to consciously aim at the enhancement of their bits of the California countryside.

Russel Ray, President of Santa Barbara Chapter, American Institute of Architects, has been appointed professional advisor for the competition, the program for which has the approval of the Santa Barbara Chapter, and is as follows:

The program follows:

Competitors:

This competition is open to architects, engineers, and draftsmen who are residents of the State of California.

Compensation to Competitors:

The sponsors of the competition agree to pay the winners immediately after the judgment of the jury the following:

For 1st Prize Design	$500.00
For 2nd Prize Design	200.00
For 3rd Prize Design	100.00
For Six Honorable Mentions, each	25.00

Jury of Award:

Clarence A. Tantau, architect, San Francisco.

Ralph Flewelling, architect, Los Angeles.

Charles H. Cheney, architect and city planning consultant, Palos Verdes.

L. Deming Tilton, landscape architect and director county planning, Santa Barbara.

John Frederick Murphy, architect, Santa Barbara.

The plans and planting branch of the Community Arts Association and the competitors agree that the jury has authority to make the awards and that its decision shall be final.

THE COMPETITION

The Problem: Mandatory.

The design of "A Roadside Commercial Group", suitable for the small town and rural highway which shall include:

(a) a service station

(b) a store and/or restaurant building

(c) an auto court or camp with not more than 30 units arranged either in single cabins or as multiple dwellings.

I. *The Site:*

Is a rectangular plot having an area of one (1) acre (43,560 sq. ft.) with a frontage of not more than 200 feet on the highway.

II. *Maximum Occupied Area:*

The entire building group including units, store building and service station shall occupy not more than 35% of the total area of the plot.

III. *Restrictions:*

(a) No buildings shall be built closer than 5′ from the side and 10′ from the rear property lines.

(b) Cottages shall be located not less than 20′ from the highway frontage property line.

(c) Store, restaurant or service station may be built on highway frontage property line, provided ample and convenient space for driving in, and parking is provided on the property.

(d) Streets between rows of cottages shall be not less than 25′ in width and planned to provide quick clearance in case of fire.

(c) Auto court structures whether single units or multiple dwellings shall be spaced not less than 10′ apart. This space may be used for automobile shelter.

(f) At least one laundry with provision for washing and drying clothes shall be provided.

(g) The position of a camp incinerator shall be indicated.

(h) Lighting by electricity or acetylene gas shall be provided for.

IV. *Auto Court:*

Each unit must contain as a minimum requirement:

(a) A bedroom accommodating 1 double bed or 2 single beds, 2 chairs, 1 small table, 1 dresser, 1 heating appliance.

(b) A kitchenette with sink, gas or electric plate or wood stove, table, cupboard and/or drawers and screened cooler.

(c) Toilet facilities consisting of 1 toilet, 1 shower, 1 lavatory with water heater (if central water heating plant is not provided) which may be located in one room or in separate compartments.

(d) Shelter for automobile.

Each unit shall contain not less than 360 square feet, including shelter for car. Twenty-five per cent of the units shall provide space for 2 double beds or some arrangement for sleeping accommodations for four people.

All buildings must comply with California State Housing Act regulations. (See appended summary of Housing Act applying to Auto Camps.)

V. *Other Buildings:*

Store building and/or restaurant building shall not exceed 1500 square feet total area. (The store building, as the survey shows, is devoted either to the sale of automobile accessories, or package or canned groceries, and often ice cream, candy and tobacco. If meals are served in the small restaurant, a refreshment counter is often found in connection with it.) The Service Station shall not exceed 500 square feet total area.

VI. *Materials:*

The choice of materials is left to the designer, but the designer shall be governed in his choice by *practicability* and *economy* of construction and *appropriateness* to the locality.

Presentation Drawings: Mandatory: The following drawings shall be submitted in the prescribed manner:

1. Complete plot plan of entire group showing location of all buildings, walks, drives and suggested landscape development and dimensions of plot at scale of 1/16″ equals 1′-0″.
2. A perspective of the group as seen from the highway.
3. Plan and two (2) direct elevations of Service Station.

   Plan and two (2) direct elevations of Store and/or Restaurant.

   Plan and two (2) direct elevations each type of auto court used in layout, drawn to scale of ⅛″ equals 1′-0″.
4. Any exterior detail or advertising device drawn to scale of ½″ equals 1′-0″.
5. Graphic scales must be shown.
6. Drawings shall be made in full black ink on two sheets of illustrator's board. Diluted ink, color or wash is prohibited.
7. Each sheet is to be exactly 20″x30″. Single black border lines shall be drawn so that space inside them will be exactly 18″x28½″.
8. Each sheet shall bear the title: "Design for a Roadside Commercial Group submitted in Competition held by Santa Barbara Community Arts Association." Each sheet shall be signed by a Nom de Plume or Device.
9. The perspective of the group and the plot plan shall be shown on the same sheet; the plans and direct elevations of individual buildings shall be shown on the second sheet.

Consideration of Jury of Award:

1. Architectural merit of the design of the entire group.
2. Excellence and ingenuity of plans.
3. Practicability and simplicity of construction.
4. Fitness and economy of design as a whole to meet the needs and spirit of the problem.

Communications: Mandatory:

As this is an open competition it will be impossible to answer communications. Therefore, the contestants shall not communicate on the subject of this competition with the professional advisor, members of the jury, or with any other per-

son in any way connected with it either directly or indirectly.

Anonymity of Drawings: Mandatory:

The drawings submitted shall contain no distinguishing mark except the Nom de Plume or Device, which could serve as a means of identification. Every set of drawings submitted shall be accompanied by a sealed envelope bearing on the outside only the words: "This envelope contains the true name and address of the competitor whose Nom de Plume or Device is....." These envelopes will be retained unopened by the professional advisor until the jury has completed its awards. No competitor shall directly or indirectly reveal his or her identity to a member of the jury or to the professional advisor.

Delivery of Drawings: Mandatory:

The drawings submitted in this competition shall be securely wrapped flat and addressed in plain lettering to The Plans and Planting Branch, Community Arts Association, 929 Paseo Carrillo, Santa Barbara, California. The return address required by postal and express regulations must not be the name and address of the competitor, members of his family or a partner, but of a person who could be notified by the transport agent in case of non-delivery. Drawings shall be delivered not later than 5 P. M., November 16, 1931. Drawings submitted are at the competitor's risk. Reasonable care, however, will be exercised in their handling, keeping and packing for return.

Examination of Designs:

The professional advisor will examine the designs and records of their receipt to ascertain whether they comply with the mandatory requirements of the program and will report to the jury any instances of failure. The jury will satisfy itself of the accuracy of the report and will place out of competition and make no awards to any design not complying with mandatory requirements.

Announcement of Awards:

The professional advisor will send by mail the names of the winners of the prizes and mentions to each competitor as soon as possible after the awards have been made and the envelopes have been opened. The announcement and report of the jury will also be published in the next possible issue of The Architect and Engineer.

Ownership and Use of Designs:

The prize designs are to become the property of the Community Arts Association and the Association reserves the right to publish or exhibit any or all of the designs not premiated. In every case where a competitor's design is shown his or her name and address will be prominently displayed on the design.

Return of Drawings:

Non-premiated designs will be returned to their authors at the expiration of the exhibit period, if they so request at the time of submitting design.

STATE HOUSING REGULATIONS APPLYING TO AUTO CAMPS

1. Windows may not open into auto shelters or garages.
2. Cooking and sleeping in the same room is prohibited.
3. Every living room, sleeping room, or kitchen in every building must be provided with windows of an area equal to 1/8th of the floor area of each room, and in no case shall aggregate window area of any room be less than 12 square feet. Every bath and/or toilet room shall have a window of at least 3 square feet in area. Toilet and/or bath windows may open into a vent shaft 18 inches in its least dimension and unobstructed to the sky.
4. Every sleeping room in any building must have at least eighty square feet and be at least seven feet at any point. Ceiling height must be at least eight feet.
5. There must be at least twelve inches between the ground and the lower edge of the floor joists.
6. Rooms used for cooking must be separated from rooms used for sleeping and from toilets and/or bathrooms. No doors between toilets and/or bathrooms and kitchens are permitted.

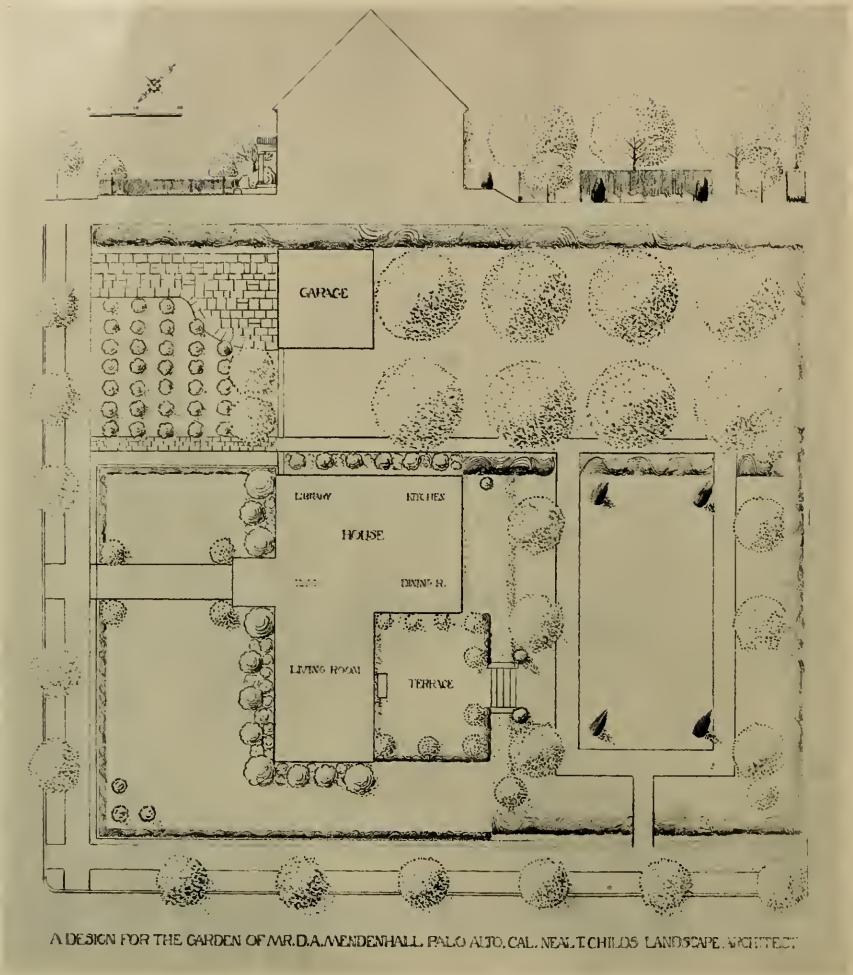
GARDENS

by

NEAL TOWNLEY CHILDS

LANDSCAPE ARCHITECT

PHOTOGRAPHS
BY
BERTON CRANDALL «» GABRIEL MOULIN

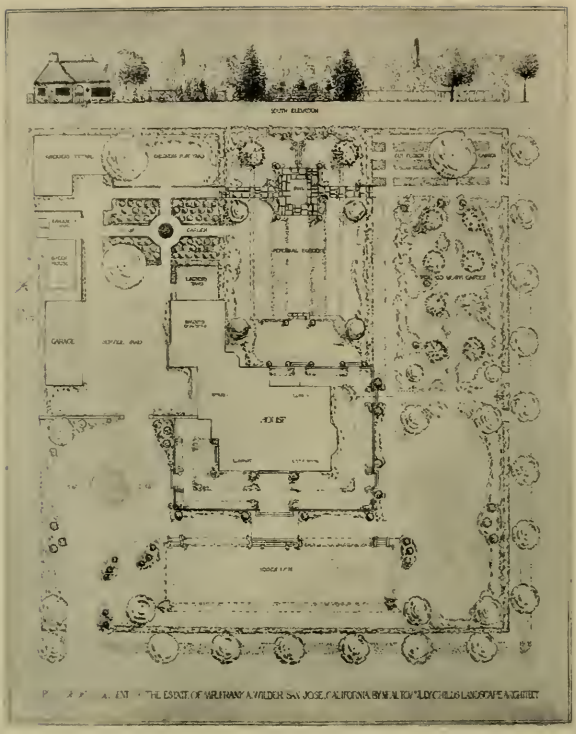


DESIGN FOR THE GARDEN OF D. A. MENDENHALL, PALO ALTO
NEAL TOWNLEY CHILDS, LANDSCAPE ARCHITECT

THE FRONT GARDEN, RESIDENCE OF D. A. MENDENHALL, PALO ALTO
NEAL TOWNLEY CHILDS, LANDSCAPE ARCHITECT
CHARLES W. McCALL, ARCHITECT

"THE TERRACE", GARDEN OF D. A. MENDENHALL, PALO ALTO
NEAL TOWNLEY CHILDS, LANDSCAPE ARCHITECT
CHARLES W. McCALL, ARCHITECT

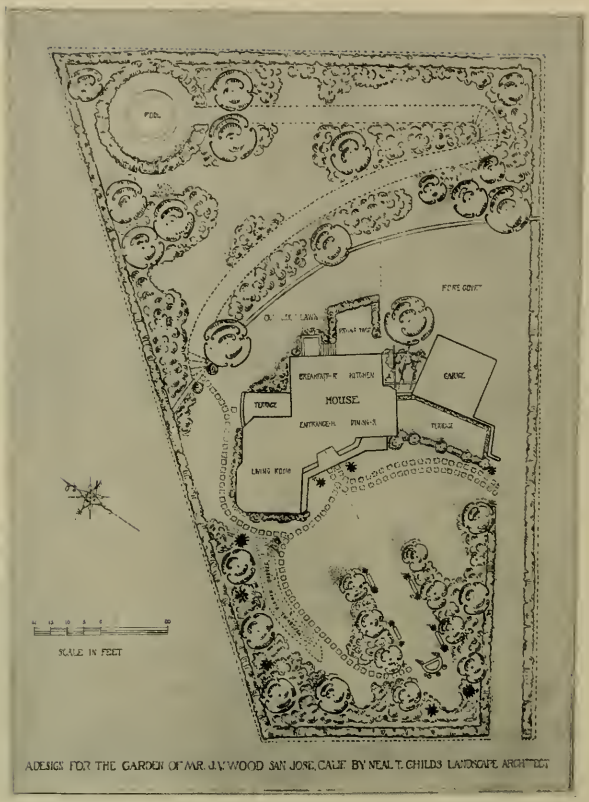
"THE TERRACE", GARDEN OF F. A. WILDER, SAN JOSE
NEAL TOWNLEY CHILDS, LANDSCAPE ARCHITECT
BINDER & CURTIS, ARCHITECTS



DESIGN FOR GARDENS OF FRANK A. WILDER, SAN JOSE
Neal Townley Childs, Landscape Architect

SPANISH GARDEN, HOUSE OF STANTON GRIFFING, STANFORD UNIVERSITY
Neal Townley Childs, Landscape Architect
Charles Sumner, Architect

GARDEN OF J. V. WOOD, SAN JOSE, CALIFORNIA
Neal Townley Childs, Landscape Architect
W. R. Yelland, Architect


HOUSE
GARAGE
LIVING ROOM
SCALE IN FEET
DESIGN FOR THE GARDEN OF MR. J.V. WOOD SAN JOSE, CALIF. BY NEAL T. CHILDS LANDSCAPE ARCHITECT

GARDEN DESIGN, ESTATE OF J. V. WOOD, SAN JOSE
Neal Townley Childs, Landscape Architect

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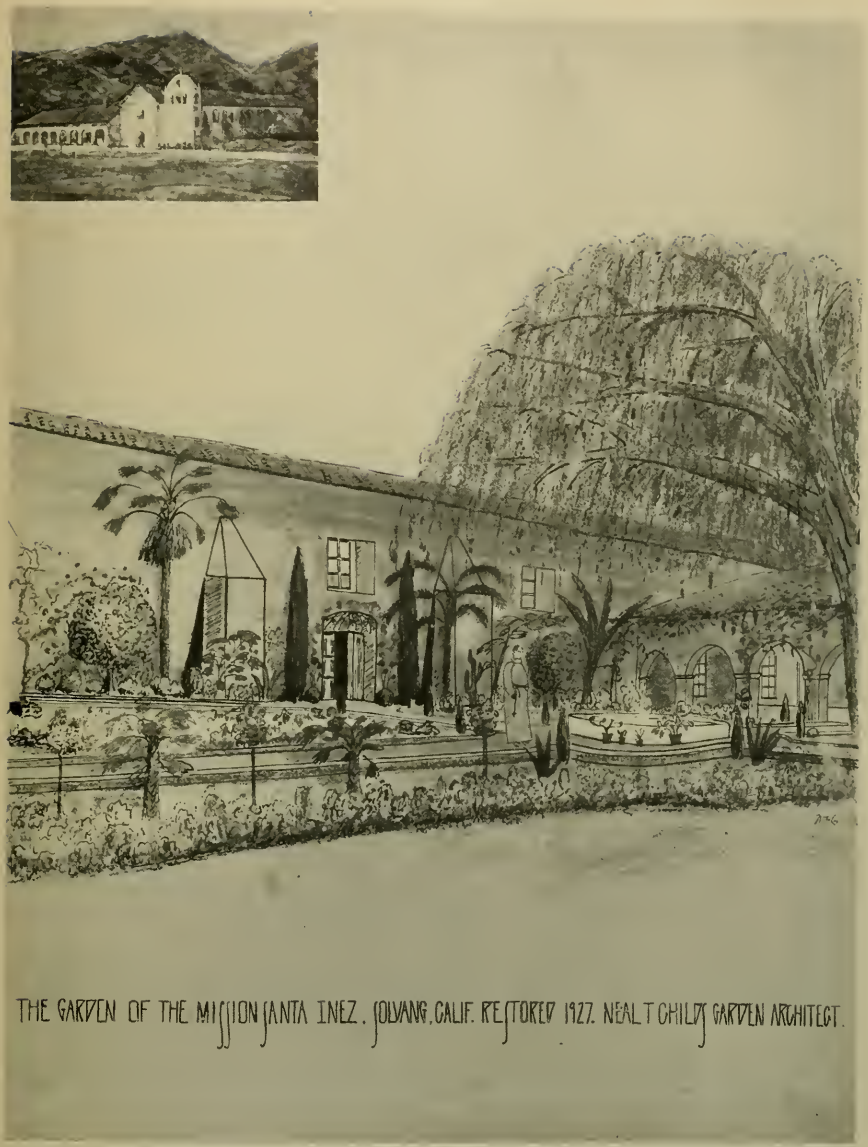
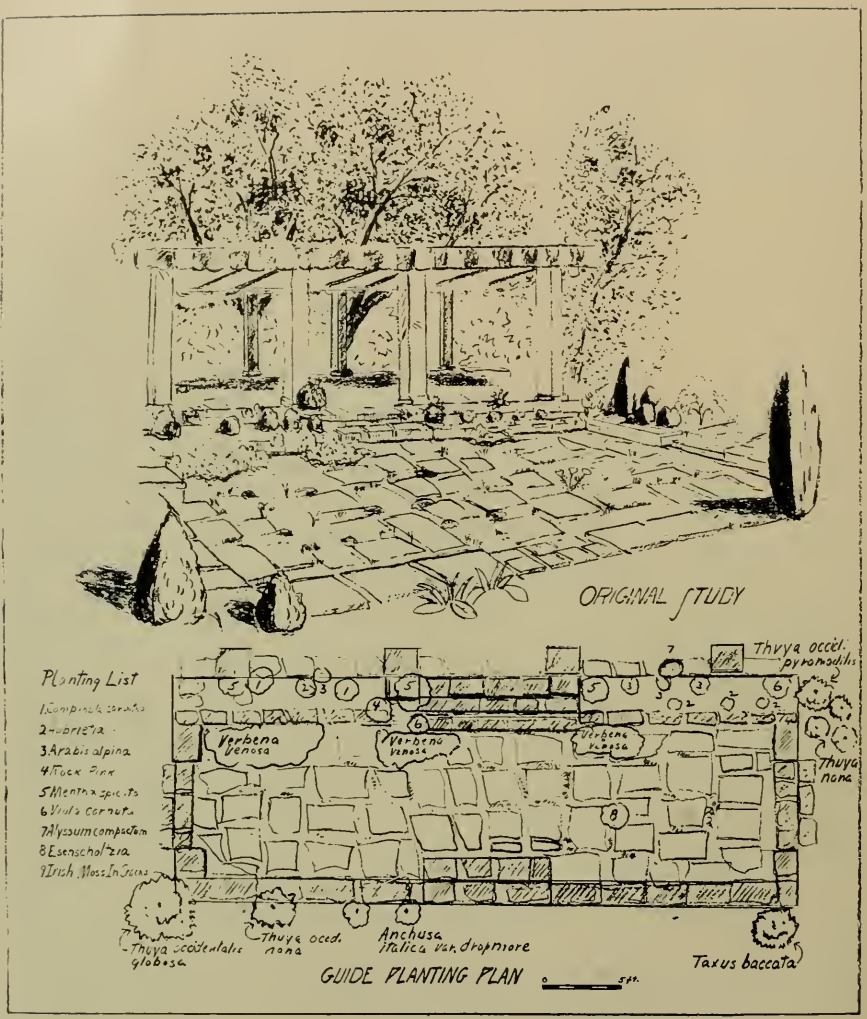
"LOWER GARDEN", RESIDENCE OF NEAL T. CHILDS, ATHERTON
NEAL TOWNLEY CHILDS, DESIGNER AND LANDSCAPE ARCHITECT

"INFORMAL LAWN", GARDEN OF NEAL T. CHILDS, ATHERTON
NEAL TOWNLEY CHILDS, LANDSCAPE ARCHITECT



STUDY FOR RESTORATION OF MISSION GARDEN, SANTA INEZ, CALIF.
NEAL TOWNLEY CHILDS, LANDSCAPE ARCHITECT



STUDY FOR A LOGGIA AND SUNKEN ROCK GARDEN
NEAL TOWNLEY CHILDS, LANDSCAPE ARCHITECT

LOGGIA AND SUNKEN ROCK GARDEN (Study on opposite page)
NEAL TOWNLEY CHILDS, LANDSCAPE ARCHITECT

A GARDEN POOL, PRIVATE ESTATE IN SAN MATEO COUNTY, CALIFORNIA
NEAL TOWNLEY CHILDS, LANDSCAPE ARCHITECT

THE NUMBER TWO IN ARCHITECTURE

by WILLIAM LEE WOOLLETT, A.I.A.

PROLOGUE—*It is commonly known by observers of the bee that the nectar from the flowers is diluted with water by the bees as part of a kneading process; the bee tossing minute masses of the mixture into the air, as though kneading and airating at the same time.*

So the creative artist should function with the thoughts which he has in respect to aesthetics. Metaphysical law is the nector. To dilute this nectar with a sense of the indeterminate—the fluidity of all truth, i.e., the relativity of all values, the sense of a fourth dimension, to maintain a mental state of flux, tossing our concepts into the air, always seeing them in the light of a kaleidescopic world of half-truth; always kneading and airating the basic and formal through contact with the new and changing. This is creation, not a formula, but rather a state of mind.

And so in considering the simple categories of the famous "rule of three" in respect to art and architecture it is desirable to believe that the primary metaphysical relations which we are investigating are not finalities but primer-like statements which must be modified as we have said, by contact with the ideas of relativity and of series and progressions and of the fourth dimension. To create an art out of the antithesis of all of our present accepted art concepts would be very interesting, some have tried this. The sensation is something like dancing out of time with the music. Did you ever try to create a suave beautiful slow motion in waltz time, to the tune of wild Jazz music? To choose the essential rhythm out of a universe of clanging diverse elements is the power of the artist. The subtle meaning of the "seeming" —a grandly manœuvering full-rigged ship in the vortex of a hurricane—this is art.

WE are informed that the symbol for a quarrel in the Chinese language is two women under the same roof, the symbol in print looks something like this / / —a similar symbol meaning a free fight looks like this / / / —three women under the same roof.

The idea of a symbol then is quite plain —a scratch on the paper meaning two under the same roof stands for a quarrel—you will never forget that symbol, and likewise the man never forgets that he has two hands and two feet. They are for him symbols of action, cooperation, achievement. These hands inhibit the idea of function in part because they are two. Also they are symbols of these ideas because they are part of a universe of two's, which have the same significance. The two hands, two feet, two eyes, etc., are in their significance as easy and elemental as the idea of unity.

Like the Sherrif of Nottingham—they say the Greeks "never made a mistake." What did the Greeks know about the relation of numbers to ideas? And of what significance, if any had the numbers in the scheme of things architectural? Did the numbers one, two, three, to the Greek of antiquity for instance play a part worth noting? What did the Greeks think about this number two which we have said inhibits the idea of function?

The cornice of the Greek Doric order is divided into two equal parts. Why? Why should you divide a surface in such an inane easy-going manner? As if you wished to indicate the least possible effort? On the other hand contemplate that grand impar-

tial suave, motion, the dividing of a thing in two as God divided the night and the day, the sea and the land, the male and the female, etc.

If you wanted to introduce the idea of refinement through decoration i.e., by means of mouldings and carvings, on the space occupied by the frieze and architrave of a Greek Temple cornice, how would you draw a line on this surface so that the structural feeling in the cornice would be unimpaired—as to its abstract value—no quality of size or weight or resisting power unduly infringed? A vertical division anywhere least of all at the center of the opening, between columns would not do. What then is the biggest way, the nerveless way, the "grand manner," if you please, to divide this surface—any surface for that matter? The answer must come out of experience. How is a ship divided, by its keel? How is a mammal divided, by its backbone? If you wish to retain a perfect equilibrium—how do you divide a balanced weight over the fulcrum? How do you divide the weight on any supported member in order to create actual or implied stability? You naturally and inevitably divide the loads equally on either side of a support. This idea of equilibrium, and of the axial relations i.e., of balance is the static background of the Greek Orders of Architecture. This idea is the loins from which Greek construction springs—just as in a picture the forms emerge from caverns of shadow or the steel frame comes from the laws of applied mechanics.

The evenly divided surface which is characteristic of the Doric order and appears elsewhere in Greek Architecture has undoubtedly a metaphysical origin. The architrave of the cornice of the Choragic monument of Lysycrates is divided into three equal faces which seems to carry out the Doric feeling as to the nerveless—impassioned quality. When one sees a geometrical or arithmetical progression illustrated in the varying width of surfaces of the architrave invariably used by the Romans and most builders of the Renaissance periods one wonders just why the even arrangement of the Greeks was abandoned for the more picturesque and emotional arrangement. Justly we imagine that some natural prejudice of the mind is responsible for this variation. If we could discover the basis of this prejudice we would have one more key to the power of thought, i.e., another law of metaphysics in architecture.

To continue consideration of the place which the number two occupies. A man is divided in the middle in the vertical plane by his backbone, and in the horizontal plane at the point of joining of trunk with legs. In the second or other vertical plane man is unsymetrically divided. Every leaf of the forest, fish of the sea, animal, insect and bird has an axial line in at least one plane. Why should not the Greek cornice be treated as though it were an organic entity, be divided on its longitudal axis? To be sure half of the cornice is full of ornament and half is left plain, that is quite like the horizon line—the earth beneath and the sky above, a symbol of creation. But notice the subtlety of the Greek cornice—the active or ornamented areas are in the reverse position to that found in nature. The horizon line has the open areas above, i.e., in the sky, whereas in the Greek cornice the open or plain area is below. How wonderfully compact are THE LAWS OF THE CORRESPONDENCE in nature!

John "Angle" came back to the realities of life, the pencil lagged — the far-away look was gone, he focused on the distant horizon line. The sun was just coming up. Our architectural student was really ready to retire. Symbol of the rising sun! He thought and continued to write as he thought. Do you not often see a picture of the rising sun shown on the horizon line which indicates the sun as half up? Strange, why do they almost always show it cut across the middle? Isn't it the easiest way? But the moon, why isn't the moon ever shown on the horizon line? Why is it so often shown about quarter size—sitting on its rump? The easiest way to indicate, or suggest the moon is just that way! Because contrary wise the symbol of the sun is a circle. And a star—why is a star more often shown with five points? Is it not because a five-pointed star can be made with

one stroke of the pencil? The star is the lowest order of pentagon with re-entrant angles which can be drawn thus. Five points! Our friend idly moved his pencil—one, two, three, four, five strokes—a five-pointed star appeared. Five points is the smallest number of points which you may connect with straight lines and produce a polygon of re-entrant angles. Seven points is the next highest number of points you can make into such a polygon with a single unbroken line, but much more difficult to accomplish. A six-pointed star must be made in two operations—two overlapping triangles, etc.

What has this simple operation of drawing a star to do with the value of two: Let us begin all over again. The immense simplicity of the idea of duality, as compared with four, five, six, etc., is intriguing. Mention of three is omitted because as we shall see, two and three belong with unity in the same category.

If the architect decides to bring out the idea of function in his plan he makes one part for this and one part for that. A plan of a single room hardly emphasizes the idea of function, it is a monument, it is all things to all men. With two parts the question arises, what is this space for and what that? The idea of division and sub-division may go on and on but nothing can be done which takes you further from unity than to divide a plan into two equal parts. Any other number of divisions only serve to accent the idea of unity in the whole, for diversity when it gets beyond the number two is well on the way to expressing unity. Three of course expressing the maximum of unity (if that is possible?) and two of the maximum of disunity. Thus we have cheek by jowl two and three, each the antithesis of the other in respect to its relation to unity. This basic metaphysical fact is a tremendous help in analyzing the parts of any composition as the proper application of the values two and three makes it possible to read instantly the meaning of the artist. Two is by all odds the noblest number but how hard to use properly!

However, when you divide the space into two parts, equal or unequal, there is automatically comparison, segregation, i.e., functional expression. If equal, the inference is that the functions are the same. Mere difference suggests difference in function. Two equal rooms may have, however diametrically different functions. Three, four, or a larger number of rooms cannot express diametrically opposite functions. Therefore again to divide anything in half or two equal parts is to divide in a manner expressing the greatest difference with unity.

One conclusion to all of this boresome, hair-splitting argument is that the idea of two, of duality is an isolated complete and satisfying concept, which fuses with the idea of unity without cism. As corolary of this idea, observe that there is no such thing as a two-sided, two-pointed plane figure. The triangle is a symbol for three, the square a symbol for four, the pentagon for a five-sided figure, etc. But we have no geometric symbol for two. The digit is not a form in the sense that the equilaterial triangle and the square is a form. The idea of two is therefor unique. The concept of two is what? Is it not the idea of function?

This isolation of two in the series of numbers lends a distinction and special significance, a significance which is only exceeded by the number three. Why is three? The Trinity, the three graces, three in all architecture and art composition. We all know three, breathe three, believe three. but why? The answer is, why is unity and why is two? Three is elemental, just as two is elemental, why do we not know any more than we know, why every bird and beast, tree and flower, every creative faculty and function, has an idea of three mixed up with it in some fashion, and just as the idea of two is similarly involved in a colatteral and different sense. The law of dimension, which we find in our sense perception, is the law, one—two—three.

When a friend asked me the other day why three was such an important number to architects, I could say only that it had always satisfied me to know that three elements were the greatest number which the mind is willing to accept as a unit, and that explanation completely satisfies my mind.

However, since that time I have been considering the question, more particularly—"Why is three?" I began my investigation by sketching elevations of the pyramids, this being to me the simplest known architectural form. I discovered the three in the composition, the two bounding lines and the base line regardless of the point of view. The section of the pyramid is of course a triangle, whether you see it in elevation of perspective. You can see one face, or at most two faces at a time, two-disclosing incidentally the functional form of the pyramid. (To get a glorified sense of three, there should be three pyramids.)

Then I made a sketch of two buildings, office buildings, just alike, in perspective. I could see two sides of these buildings. When I drew a third between the first two I had them in a group all alike. Then I thought of the idea of the two on either side as being functional with the center building. The sense of belonging which the perfect symmetry seemed to imply demanded my attention. The three alike and grouped together seemed to demand a unifying sense, an effect which would easily be enhanced by making the center building larger than the two on either side. Then I drew an axis through this larger center building. After this I made a large center building and two very small, flanking ones. The idea of the axis was thereby glorified. I had discovered a natural prejudice of the mind, the idea of two, plus the idea of the axis is interchangeable with the idea of three. In other words two and the space between which is necessary to the separateness of the two automatically makes three. You say why does not four automatically make seven by the same token—simply because after three in the ascending scale we have an entirely different reaction, four, five, six, etc., being definitely part of a series or progression except as when seen as groups of two's and threes. This matter of series and progression, four and five, six, etc., do not first of all appeal as volumes, they are processional.

We acknowledge without argument that three parts in an architectural composition is satisfying. We must know that two parts and enough of an implied third may be equally pleasing, or more pleasing. And so we approach the study of one, two, three, these are the keys, the vision and the wisdom are beyond.

Moreover when the idea of a third force or entity enters the realm of the couple, we arrive at the idea of balanced values or of an interpolation and arrangement of factors rather than a simple division, or complimentary situation which the idea of two involves. The "I" and the "Not I" and the idea of function which unites the "I" and the "Not I." This is also a primal three.

If you wish to eat—soup in the dish, eggs in the shell—or to consider teeth in the head; a mouth, a single element consisting of two jaws, two lips—forks, spoons, knives—all have a business end and a handle end. The functional idea easily resolves itself into two.

There can be no functional idea in unity as such. The idea of one, save as it includes the ideas of duality and triology means what? Multiplicity can have no idea of function, save as it resolves itself into a functional two and a third signifying direction.

It would seem then that the first value to be observed in connection with the idea of two is the idea of function. The concept of two's then may be considered the first aspect of the higher dimension, time. The first idea which the infant man has is the "I', and the "Not I"—the ego and the world without the ego. And as I see it, this idea of two is co-existent and inseparable from the idea of function which means three.

(Concluded in November Number)

MODERNIZING A TWENTY-FIVE YEAR OLD OFFICE BUILDING

by VINCENT RANEY

IN times of depression, when the building industry is at a low ebb and when property owners are too conservative to invest in new structures, arguments for modernizing old buildings have a responsive appeal, and the opportunities for the architect to develop his business loom encouragingly. If he can convince the owner how he may place his property on a paying basis, the architect is certain of a commission that will at least tide him over until bigger things develop.

The Atlas Building on Mission Street, San Francisco, an historic land mark in the city's skyline, having proved its worthiness by withstanding the fire and earthquake, has lately undergone a change of architectural dress that has placed it in a class with some of the more modern skyscrapers. This ten story structure, the first to be habilitated after the earthquake, is of steel frame and brick walls.

Even "old man Atlas", (decorative figure over entrance) who had weathered the elements for twenty-five years, guarding the people who used the building, has given way to modern design. The photograph taken just after the earthquake, showing the brick shaken from the building, demonstrates how securely it must have been built. The original building was quickly repaired with indifferent materials (all that were available after the fire), and now for a third time the structure has been reclothed.

As far as the history of architecture is concerned, this building shows the trend

ATLAS BUILDING AFTER THE SAN FRANCISCO EARTHQUAKE AND FIRE

of the times since its conception. It indicates the "lag" or hesitancy on the part of the architect to express the real truth. It reflects the "groping in the dark" which the profession has passed through in seeking to find an expression for the new methods of construction. Consequently, it retained all the "ear marks" of the old classic period in exterior appearance only.

The wide projecting cornices were not stone, but of wood and metal. The columns on the facade were plaster and without structural value. The ferocious looking "caryitid" lions of cast iron, apparently supporting the entire structure, lazily threw the weight to the silent steel columns within the structure, while "old man

ATLAS BUILDING AS IT APPEARED BEFORE ALTERATIONS

Atlas" labored all these years supporting nothing more than his cast iron globe.

The owner, desirous of increasing the income from this property, decided renovation would do the trick and came to the architect with his problem.

In the light of modern design and economy, the architect worked out a solution of refacing the old building which had weathered the elements for more than a quarter century. The problem of the architect was to make the building modern. Local ordinances required a fire escape and safety hook for windows. These safety devices were not considered a necessity at the time the building was constructed.

Another desirable feature in the construction of the repairs was the use of steel tub-loc scaffolding. This scaffolding is not only fireproof but it affords complete visibility at all times.

The work of remodeling was ever a source of joy to the workers and to the architect who discovered some astounding conditions attributed to the speed and careless methods of those engaged in earthquake renovation.

Upon the removal of the plaster columns and tin cornices, large pieces of loose masonry (as much as a cubic yard) were revealed hanging as if by a thread, ready to crash to the street below. However, careful methods eliminated the danger and the whole job was carried through with nothing worse than the sprained ankle of the architect. All the loose masonry was removed and replaced with well laid brick. The work of dismantling the cast iron lions from the facade was akin to forcing a child to do something he was afraid of, so fearful were the workmen of disastrous results. Some of the men actually believed the entire building would come tumbling down.

After all new construction was in place the real enjoyment came. With the collaboration of the painter and plasterer, a complete outside transformation was accomplished as shown in the picture taken upon completion of the building. Once again San Francisco has a modern building designed to express present day styles.

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Steel Scaffolding by Patent Scaffolding Company

PROGRESS PICTURE, ALTERATIONS TO ATLAS BUILDING
JOHN V. D. LINDEN, ARCHITECT

F. R. Siegrist, General Contractor

ATLAS OFFICE BUILDING, SAN FRANCISCO (Alterations complete)
JOHN V. D. LINDEN, ARCHITECT

ENGINEERING

and

CONSTRUCTION

BRACKETS RIVETED TO ENDS OF STEEL CHANNEL LAMELLAS AND BOLTED TOGETHER THROUGH STEEL PLATES

Featuring

First Steel Lamella Roof on the Pacific Coast

CLOSE UP OF ROOF CONSTRUCTION, COCO COLA WAREHOUSE
STEEL MEMBERS FIREPROOFED WITH TWO INCHES OF CONCRETE

LOS ANGELES HAS FIRST STEEL LAMELLA ROOF ON PACIFIC COAST

THE first steel-framed Lamella roof on the Pacific Coast has recently been completed on a two-story, Class A fireproof warehouse for the Coca-Cola Bottling Works, Central Avenue, south of Pico Street, Los Angeles. Only a few other similar roofs have been erected in the United States, among them being one at the American Car & Foundry plant in St. Louis, another at the State Reformatory in Pennsylvania and the third on the Westchester County Center building at White Plains, N. Y. Hundreds of Lamella roofs have been built in this country, but with the exceptions noted they have all been constructed of wood because this type is economical and offers a remarkably low fire hazard, damaged members being easily replaced.

A wood Lamella roof was first planned for the Coca-Cola warehouse, but as the owners desired to have a strictly fireproof Class A structure it was decided to use structural steel, fireproofed in conformity to the Los Angeles city building code, if it could be done within a stipulated cost. This was found to be entirely feasible, the design working out even more economically than anticipated. The roof has a clear span of 70 ft. and is 120 ft. in length, giving an unobstructed floor area in the second story of 8400 square feet.

The building has a reinforced concrete frame with brick filler walls and reinforced concrete floors and stairways. The girder at the roof line encircling the structure is heavily reinforced, somewhat thicker at the bottom than the walls and battered on the inside to receive the steel shoes on which the outside points of the lower Lamella diamonds rest. To take up the thrust

DETAIL OF STEEL LAMELLA ROOF, COCO COLA WAREHOUSE, LOS ANGELES

from the roof frame the girders are tied together transversely with 2-in. steel rods in pairs anchored to steel plates on the outside of the girders and joined in the middle with turn-buckles. There are seven pairs of tie rods spaced about seventeen feet apart. The steel shoes are held firmly in place by bolts imbedded in the concrete girder. As these shoes must be in exact positions the bolts had to be placed very carefully.

All the steel members of the roof frame were fabricated in the shop to exact dimensions. The Lamella diamonds are five feet, four and seven-eighths inches wide and fifteen feet long. The Lamellas are made of eight inch steel channels weighing eleven and one-half pounds to the foot, and are each seven feet, six inches long. Two steel brackets are riveted to each end of the channels. Where the channels converge at the points of the diamonds they are bolted to a steel plate, making a rigid connection.

INTERIOR VIEW OF ROOF CONSTRUCTION, SHOWING STEEL TRUSSES BEFORE ENCASED IN CONCRETE

GENERAL VIEW OF INTERIOR, COCO COLA PLANT, LOS ANGELES, SHOWING ROOF CONSTRUCTION IN COMPLETED STATE

STEEL LAMELLA ROOF, COCO COLA PLANT, LOS ANGELES. THIS ROOF HAS A 70-FOOT SPAN

Details of this construction are shown in the accompanying pictures.

The roof frame was erected from a wood scaffold. As each Lamella weighs only about eighty pounds it was handled with comparative ease, being supported by falsework until a sufficient number of bays had been erected to make them self-supporting. Erection proceeded very swiftly as every piece going into the frame fitted accurately and could be handled by one man. The actual time required for erection of the steel was about two and one-half days. Building and demolition of the scaffolding required three days.

The total roof area is 9068 square feet. The frame contains 440 Lamellas and a total, including tie rods, plates, etc., of approximately 28 tons of steel.

The frame supports a two inch reinforced concrete roof slab and all the steel members are fireproofed with two inches of concrete shot into place by a cement gun. The roof slab rests on four inch steel purlins spaced thirty inches on centers, and reinforced with Steeltex. Concrete is also shot onto the under side of the purlins. A diamond paneled ceiling of pleasing appearance is the architectural result of the fireproofing of the roof frame.

H. T. Miller of Los Angeles is the architect, Noel M. Calhoun the structural engineer in charge for Wm. P. Neil Company Ltd., the builders, and McClintic Marshall Company of Los Angeles furnished and fabricated the steel.

GOLDEN GATE BRIDGE FOUNDATION SAFE, DECLARE EXPERTS

THE San Francisco Chamber of Commerce, through its president, Leland W. Cutler, has issued a statement defining the policy of the Chamber with respect to the proposed Golden Gate Bridge to Marin County. In view of some adverse criticism concerning the construction of the south pier of the bridge, the following expert information has been broadcast by the Chamber.

"Robert A. McKinzie, C. E., has written an extensive opinion to the effect that the foundations for the bridge were not adequate to support the bridge and under date of June 8, 1931, concluded his report as follows:

"1. The evidence thus far obtained, indicates that a foundation pier for the proposed Golden Gate Bridge cannot be safely built on the rock structure underlying the proposed site of the south pier.

"2. Additional drilling should be done to the west of the present south pier site to determine the character of the sub-aqueous rock. There is a possibility that satisfactory footings may be found in that locality.

"The following five geologists and engineers say that the bridge can be safely built on the proposed foundations: Andrew C. Lawson, Consulting Geologist, on June 9, 1931, said:

"1. * * * The pier will rest upon serpentine and upon no other rock.

"2. Serpentine is a common rock throughout the Coast Ranges and the Sierra Nevada, with which I am very familiar.

"3. The serpentine of the pier site, as revealed in the drill cores, has the same physical characteristics as has the serpentine exposed in hundreds of localities throughout the state, and indeed throughout the world.

"4. The pressure on this rock at the base of the pier when in place will be 9 tons or 18,000 pounds per square foot. A cubic foot of serpentine weighs about 156 pounds and a column of serpentine 116 feet high would have a pressure of 18,000 pounds on every square foot at the base of the column. Under the same degree of confinement as will be true of the foundation of the pier, this type of rock in nature sustains many times this load. That is, there are many known masses of serpentine that have a thickness of many times 116 feet and are perfectly stable.

"5. The experiments conducted at my suggestion by your Chief Engineer at Fort Point to determine the strength of the rock showed that it did not yield under a load several times that which will be imposed upon it by the pier.

"6. The position of the south pier near the edge of a submarine bench with a rather steep outer slope demands that the foundation should be sunk well into the bench. The recommendation in my former report that the cut for this purpose be not less than 25 feet below the lowest point on the rim of the cut, takes care of this situation.

"7. Attention is again called to the fact that, while the serpentine mass has little tensile strength, and would cave down readily in mining operations, under the dead load of the pier and under confinement it will be unyielding for the pressure imposed, and will have a large margin of safety. The excavation for the south anchorage will in my opinion call for much greater engineering ingenuity than the placing of the foundation for the south pier.

"8. In general I reaffirm the opinion which I expressed in my former report as to the adequacy of the foundation to support the pier as designed, the latter being sunk in the rocky bench of the sea floor nowhere less than 25 feet."

Allen E. Sedqwick, Consulting Engineer, Seventh Street Light and Power Company, Los Angeles, and Consulting Geologists, City of Los Angeles, Department of Water and Power, on June 9, 1931, said:

"Last January, I was commissioned by the Golden Gate Bridge and Highway District to make a geologic study and report on the foundations of the north and south piers of the proposed Golden Gate Bridge. The report was filed in February, 1931.

"During the geologic study I visited the site of the bridge and carefully studied the neighborhood from every standpoint. I examined the five cores from the test holes drilled up to that time and was convinced that the foundations were adequate for the loads to be imposed upon them. Please refer to my report in the files of your District for full data upon which this opinion was based.

"Since that time I have received regularly, progress charts of core drilling and have examined all the cores from the eleven new test holes. The new cores confirm my former report.

"The cores show a few streaks of decomposed serpentine which, embedded and confined in the large mass covered by the pier, need give no concern.

"Any serpentine buried over 160 feet in the hills around San Francisco will be loaded beyond that beneath the piers. In the high cliffs facing the ocean where the load greatly exceeds this amount, the serpentine stands with no evidence of failure other than that produced by weathering due to exposure. Bearing tests made by your District confirm this fact.

"Surface loading unconfined, up to eight tons per square foot, is now practiced

in San Francisco without fear or indications of failure.

"Subsequent study since filing my report only confirms the deductions formerly made that the foundation rocks are entirely adequate to carry the loads that will be imposed upon them."

O. H. Ammann, Bridge Engineer, Consultant and Member of Engineering Board; on June 17, 1931, said:

"Pursuant to the request of the Chief Engineer, I submit herewith my personal views relative to the foundation for the San Francisco pier of the Golden Gate Bridge based upon the results of the supplementary borings which have just been completed.

"Pursuant to the request of the Chief Engineer, I submit herewith my personal views relative to the foundation for the San Francisco pier of the Golden Gate Bridge based upon the results of the supplementary borings which have just been completed.

"I have carefully examined the reports of the results of these borings as they became available and my confidence in and assurance of the uniformity and adequacy of the rock structure to carry safely the loads and forces, including those from earthquake, which will or may be imposed upon it, has been affirmed and strengthened by these results.

"I have read the reports of the Chief Engineer and of the two consulting geologists on the supplementary borings and concur in their conclusions that, as designed, the foundation will be adequate and safe."

Leon S. Moisseiff, Bridge Engineer, Consultant and Member of Engineering Board, on June 16, 1931, said:

"I have studied the results of the diamond drill borings recently made on the site of the San Francisco main pier and have examined the cores and material recovered. I have also read the reports on the foundation of this pier by your geologists, Professor Andrew C. Lawson and Professor Allan E. Sedgwick, as well as the report by Mr. R. M. Kinzie.

"I find that the site of the pier has been explored to an extent greater than is usual for bridge piers and that the results of the additional borings confirm those obtained from the preliminary borings. They establish the uniform character of the serpentine rock forming the foundation for the pier.

"I find this foundation, as well as the foundation of the north pier, fully adequate and safe to sustain the loads which the bridge will impose upon them at any time."

Charles Derleth, Jr., Bridge Engineer, Consultant and Member of Engineering Board, on June 15, 1931, said:

"I have been an eye-witness of diamond drill borings at all foundation sites for the Golden Gate Bridge. I have studied all data and all diamond drill cores collected from our foundations explorations. I have seen all reports which have been made upon the foundation rocks and the pier designs for this bridge.

"It is my unqualified and matured judgment that the two tower piers and the two anchorages are conservatively designed and fully adequate for their purposes, and that the rock foundations upon which these structures rest are amply capable to sustain the loads safely and permanently.

"The Golden Gate Bridge plans for all major piers require that the foundations shall be keyed deep into the rock surfaces to prevent sliding or movement of any kind. The steel towers are anchored substantially by steel work into the foundation masonry to withstand the force of wind or other lateral vibrations. Likewise the two cable anchorages are of the gravity type and are deep seated in the rock masses which sustain and support them.

"In preparation of plans, both for sub- and superstructure we have in all cases selected the most substantial methods for construction."

The ARCHITECT'S VIEWPOINT

¶ *A Good Architect Must Possess Wisdom*

¶ *Plea for Better Architectural Training*

¶ *Unification of the Profession*

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THE complete architect has a live interest in everything that can be built or designed. He accepts the problems that come to him with enthusiasm and absorbing interest. He is a keen observer of life and manners and reads constantly that he may with facility and understanding interpret these problems into actual structures and into the objects with which they are equipped and adorned. He fits himself with understanding of what his fellow men think and do that he may arrange successfully for all their motions of work, play, worship, study and social and family intercourse.

The architect's problems are ever new and he has to reinforce his general knowledge with more extended understanding every time a new commission is set before him. By the time he has obtained a mastery of experience and wisdom he is usually constrained to pass out of the picture and leave his mantle to rest upon the shoulders of his younger peers and successors. This he rarely does for, after all is said and done, the pursuit of architecture follows a lonely road and the complete architect takes his wisdom and experience with him to his grave.

Early in his experience the architect realizes that the long years of school training and preparation were just an introduction to the schooling that he must pursue during his whole career. With secret humility he believes that he started his practice before he was fully prepared. But having started he must continue on the road chosen for himself and remain student as well as practitioner indefinitely.

* * *

THERE are various ways of entering the portals of the practice of architecture. Many of the most cultured and successful architects, past and present in this country, were denied the advantages of school experience. Nevertheless, as a general rule, there is no question but that the right kind of scholastic training is best for the present generation. The student should have thorough schooling in general subjects and a wide experience in cultural studies before he begins his actual architectural course. And that is why the establishment of architectural courses in high schools and junior colleges is a serious problem and one so far not worked out with marked success. As at present organized, these high school courses do not and possibly cannot give the necessary extensive range of fundamental understanding of what it all means. The student electing to take such a course usually has a penchant for drawing and sometimes a talent for rendering. He is taught how to make working plans and elevations of a simple sort, rarely going beyond the problems of a bungalow or store building on a level lot. Upon completion of such a course he usually goes to work for a builder "who draws

his own plans" or into some public works office. If he has real ability or understanding he may get into the draughting room of a good office and there find out how much he has to unlearn. Or he may realize that what he has done is a false start and set his course determinately towards training and experience through right scholastic channels.

Because of the extension of the requirement of registration and license through the states of the Union and because of the continued stiffening of their examinations, there has sprung into existence another kind of school which has for its object the training of men only sufficiently far to enable them to pass the State examinations. At least that is their promise. The rational objections to such a course in architectural training are obvious.

* * *

THESE things should be looked into, these problems solved and their difficulties ironed out. So far as California is concerned, the whole question of architectural training in high schools and junior colleges should be taken up by a commission composed of carefully chosen architects who are especially interested in school training and of educators drawn from college and high school sources. The curricula should be revised and established and competent teachers obtained. The course should be cultural rather than objective in character. Care should be taken that it be of the sort to guide the earnest student into the right future channels. But emphasis should be laid upon the fact that such an elementary course cannot be a completing experience. Its main purpose should be to hold the interest of the youth who feels he has a vocation and to enlarge the culture of the general student in things architectural.

As to the status of the private architectural school, it is doubtful if such an institution can be worked out adequately to give the student the complete and varied experience required. If a school were that extensive it would automatically be a department of a university.

In the end nothing must be done that will stultify or discourage the ambitious youth who feels the urge of an architectural career.

* * *

UNIFICATION of the various professional organizations of the State is under discussion at the present time and already much has been accomplished to bring the State Board of Architectural Examiners, the State Association of Architects and the State Chapters of the American Institute of Architects into better coordination of effort. the elimination of overlapping and the thorough covering of the field.

These activities have extended beyond the State and many minds are working on the same problem nationally. The subject has many ramifications not the least of which is the unification and consolidation of the various State Associations of Architects which vary in their standards of membership as the professional requirements of the various States vary in their licensing regulations. The subject will be discussed at the annual convention of the California State Association of Architects at Riverside this month and later at Washington by the national American Institute of Architects.

After this problem has been settled it would be well to bring about a conference between the various professions, such as medicine, divinity and law, engineering in its many subdivisions, education and political economy, that there be a better understanding of and respect for their various codes of ethics. Conferences, following research and thorough study would accomplish much for all concerned.

Los Angeles.

CARLETON M. WINSLOW.

FULL TEXT OF DECISION NULLIFYING LEGALITY OF DENVER ARCHITECTS' ASSOCIATION

Denver, Colo.
JOHNSON-OLMSTED REALTY COMPANY
v.
CITY AND COUNTY OF DENVER ET AL.
Colorado Supreme Court.
No. 12322

Error to the District Court, City and County of Denver.
Carle Whithead, Albert L. Vogl, and Floyd F. Miles for plaintiff in error; Thomas H. Gibson, Karl Brauns, and Charles H. Haines for defendants in error. The City and County of Denver and its officers; Gabriel, Mills & Mills for defendant in error. Allied Architects Association.

Opinion of the Court

HILLARD, J.—From a judgment dismissing its complaint, in which an injunction to restrain the carrying out of a contract was sought, the plaintiff brings error. The parties will be referred to as in the trial court, by title, or, where necessary to distinguish between the defendants generally the Allied Architects Association will be called the association and the city and county of Denver and its officers the city.

It appears from the complaint and answers and from the stipulation of facts upon which the cause was tried that in November, 1924, the city, in presumed pursuance of the provisions of its charter and an ordinance (No. 207, Series of 1924) entered into a contract with the association to (a) prepare preliminary plans and estimates of costs for a municipal building and court house, (b) to prepare all plans and perform all services necessary and required in order that bids might be received and the contract or contracts let by the city for the construction of said building, and (c) to perform all services necessary and required fully to inspect and supervise all construction in accordance with the contract or contracts entered into under (b) for the erection of the complete building.

The plaintiff asserts the invalidity of the contract upon several grounds but these may be summarized as (1) that the contract was not let in accordance with the provisions of the city's charter and (2) that the association was not competent, being a corporation, to practice architecture.

The pertinent sections of the charter (as printed in Denver Municipal Code, 1927) are as follows:

Sec. 14. There shall be, and hereby is, created a department of improvements and parks, which shall have full charge and control of all public improvements and works heretofore under the board of public works and the commission of improvements. * * * The Manager of Improvements and Parks shall be the officer in full charge and control of said department.

Sec. 15. General Powers and Duties as to Public Improvements: * * * the board of public works shall have exclusive management and control of * * * the construction of all buildings for the city and county except buildings used exclusively for fire or police purposes or for hospitals.

Sec. 19. The board shall have full, complete authority * * * to expend on behalf of the city and county all appropriations made from the general revenues for the construction of public or local improvements.

Sec. 28. All contracts for local improvements, and all other contracts involving expenditure under the direction of the board, shall be let by the mayor, upon recommendation of the board, without any action of the council, except in the passage of the original ordinance authorizing the improvement or contracts. All such contracts shall be let to the lowest reliable and responsible bidder, after public advertisement by the board for not less than 10 days in some newspaper of general circulation, published in the city and county. Any other mode of letting such contracts shall be illegal and void and no contract shall be made without a bond for faithful performance, with sufficient surety or sureties, to be approved by the board, and no other surety than a surety company, approved by the board and mayor, shall be accepted.

Distinguishing Features Cited

The association is a corporation, organized under the provisions of sections 2413-2417, C. L. .21, relating to cooperative associations. The only feature which distinguishes it from ordinary business corporations is certain restrictions upon membership and participation in profits. The articles are dated, or were subscribed, on June 2, 1924, and were filed on November 21, 1924, in the office of the Secretary of State. The purposes of the association are stated to be, in general terms, the advancement of the art of architecture; to secure, by professional cooperation and collaboration of all its members, for municipalities, counties and governments the highest expression of the art of architecture in the designing and construction of public buildings and improvements; to secure for the benefit of its members the assistance of competent and skillful architects, draftsmen, engineers, etc.; to erect a building for its own purposes; to borrow money, and to do generally anything of like kind.

No restrictions as to membership are found in the articles and only by implication in the by-laws is membership limited to licensed architects. So far as the articles are concerned, therefore, the association is no different than any business corporation and it might, in the process of its development, become entirely owned and controlled by persons

other than architects. So far as the by-laws are concerned it may be that only licensed architects are to be received as members but obviously these may be amended at any time to permit the reception of other persons. By the stipulation of facts it is agreed that at the time of the execution of the contract all of the members of the association were licensed architects but that the association itself was not licensed.

At the outset it will be well to determine the right of the plaintiff to maintain its action for the city has vigorously asserted that it had no such right. The primary purpose of the action was to restrain, as unlawful, the payment by the city and its officers of any money to the association. It is admitted that the plaintiff is a taxpayer and such being the fact we entertain no doubt that it had the right to sue to restrain the payment of funds to which it had been and would be obliged to contribute to persons not lawfully entitled to receive the same. Certainly if the contract contravened the terms of Section 28 of the Charter the suit was proper, and it would also seem that if the association could not lawfully enter into the contract because of defects inherent in itself at least further payments to it should be restrained. Leckenby v. The Post Co., 65 Colo. 443, 176 Pac. 490; Elkins v. Milliken, 80 Colo. 135, 249 Pac. 655; Denver v. Pitcher, 54 Colo. 203, 129 Pac. 1015.

Reasons for Forming Association

The circmustances leading up to the making of the contract between the city and the association may furnish some light upon our inquiry. The complaint charges that the association was formed for the sole purpose of entering into the contract and some basis for this is to be found in the association's by-laws, for these, unlike its broad articles, limit the activities, or "paramount purpose" as it is therein termed, "to secure for and to provide the county and city of Denver with the highest and best expression of the profession of architecture, in the design and construction of the proposed city hall and court house building. No other commission or employment may be undertaken by the association without an approval vote first being had from the membership * * *."

The complaint further charges that the purpose of organizing the association was to stifle and prevent competition in the matter of the services contracted to be furnished. The stipulation of facts admits that prior to Nov. 21, 1924, the date of the filing of the articles of incorporation, the defendant mayor met and tentatively agreed with a number of Denver architects that the association should be formed and that it should be the architect for the proposed municipal building. Whether or not it was agreed what compensation should be paid does not appear but the ordinance above referred to recites in full a contract which the council, whether in proper exercise of its powers or not it is unnecessary to determine, authorized the mayor and clerk to subscribe in behalf of the city.

This ordinance was introduced immediately after the incorporation of the association, passed by the council on Dec. 1, 1924, and approved by the mayor on Dec. 3, 1924. By its terms the association was to receive for the services mentioned in (a) above, two-fifths of 6 per cent of the total cost of the building, for (b) two-fifths, and for (c) one-fifth, with provision for additional compensation of cost plus 10 per cent for services required by the city because of changes in plans or the like.

We shall not presume to place a construction on the acts so charged and those admitted to have been done except to say that we can not, in view of our belief that the contract was unlawful and illegally entered into approve such methods of conducting the business of municipalities.

The argument of the association and of the city is, of course, that the city may contract for the services of an architect without complying with the requirement that bids must be called for before a contract can be entered into, and this view was adopted by the court below. In his opinion the learned trial judge finds that it was not "possible or practicable to make such a preliminary contract the subject of general competition." No reason for this statement appears and we are doubtful if it be entirely sound for very frequently competitions are entered into by architects to make designs and plans for municipal and other public buildings and we know of no rule that would prevent such architects offering supervisory services at rates less than those agreed upon between the city and the association here.

Neither does the statement take into consideration the words "reliable" and "responsible" used in section 28, for it would seem that if proper

significance be given those words it would be entirely possible for the city to obtain the very finest of architectural service upon bids. Further inquiry into this phase is, however, unnecessary for, as will appear, the reason for the rule is not present and hence the rule must fail also. As was well said by Justice Butler in Roll v. Davis, 85 Colo. 594, 277 Pac. 767, "As in the circumstances presented by the record, the reason for the rule invoked by counsel is absent, the rule itself, if it ever had any existence in this State, would not apply to this case."

The reason for the rule that an exception in favor of architects must be read into the plain language of section 28 is, counsel say, that competitive bidding statutes cannot be rationally applied to contracts for the employment of architects because the value of such services depends not upon the amount of money to be paid but upon the selection of the person by the exercise of a wise and unhampered discretion in the one seeking such services, for the qualities of reputation and personal and professional trustworthiness are paramount.

Has that rule application here, even if we were to adopt it? We think not, for in the case at bar, the very elements so much to be desired in the person employed are not found. The city did not employ one or two or any number of architects; it employed a corporation itself not licensed. True some apparently very able architects are members of the association and are said by counsel to have been or are engaged in the present construction of the building, but how long they were or will be is a matter not in the hands of the city but in the hands of the association. Without let or hindrance from the city the most incompetent of architects may tomorrow be admitted to membership in the association and the next day be the sole arbiter of the completion of the building.

Naming of Architects

He may indeed be the very architect who would have made the lowest bid if bids had been taken (excluding from consideration the words "reliable" and "responsible") and the very person, therefore, to prevent whose competition it was determined that bids should not be had and the rule invoked which is above set forth. It seems to us too plain for argument that the city has signally failed to exercise wise and unhampered discretion in seeking such services for the qualities of reputation and personal and professional trustworthiness may disappear and not through failure in that regard on the part of the gentlemen with whom the city originally contracted but through the absence of such qualities in those of whom the membership of the association may at a given time be composed.

We are not unmindful, in this respect, that the contract provides that the personnel of the association's directors, officers, advisory architect, and chairman of the principal committees shall not be changed without the consent of the Mayor, but there is nowhere to be found any provision that those men are to perform the contract or have anything to do with it, or is there anything to prevent the resignation of any of them. The voice of the contract is that instead of the city naming the architects who shall design and construct its building it has agreed that the association shall name them.

A decision (A-28907) of the Comptroller General of the United States given on Oct. 28, 1929, to the Commissioners of the District of Columbia discloses a similar situation and is an admirable expression of our own views. The question was whether under Section 3709, Revised Statutes of the United States, the Commissioners might, without advertising, enter into a contract with The Allied Architects, Inc., for architectural and professional services.

Section 3709 provides that:

> All purchases and contracts for supplies or services, in any of the Departments of the Government, except for personal services, shall be made by advertising a sufficient time previously for proposals respecting the same, when the public exigencies do not require the immediate delivery of the articles, or performance of the service. * * *

The articles and by-laws of The Allied Architects, Inc., are very similar to those of the Association. The Comptroller said:

> It is not questioned that a corporation may contract for a character of services that may be classed as personal, but that does not bring the corporation within a character of personal service contracting that is the exception to the requirements of section 3709 of the Revised Statutes for contracting without advertising. Chief Justice Marshall, in the famous Dartmouth College Case, 4 Wheaton, 518, said that: "A corporation is an artificial being, invisible, intangible and existing only in contemplation of the law. Being the mere creature of the law, it possesses only such properties which the charter of its creation confers upon it, either expressly or as incidental to its very existence."
>
> That is to say, the corporation is a separate and distinct legal entity from its shareholders. United States v. Strang, 254 U. S. 491. Clearly the type of personal service authorized by section 3709, Revised Statutes, to be employed without advertising, is the services of individuals as such and with direct personal responsibility, and it appears equally clear that the type of servce The Allied Architects, Inc.,—"an artificial being, invisible, intangible and existing only in contemplation of law"—is organized to render is not such service. Whatever personal service may enter into the product of The Allied Architects, Inc., is rendered through the mediatory of the corporation and not directly by the corporation as such.
>
> "However, it is noted that in the form of contract tendered by the corporation, it is proposed to pledge itself to furnish the services of three architects named therein. The naming of particular architects whom the corporation will select to perform the services, does not bind them as individuals nor make the contract other than that of the corporation—otherwise the contract would come to nothing more than agreeing the corporation may name the architects instead of the Commissioners selecting them.
>
> And so, also, if it be urged that the Commissioners are selecting and employing architects, then the contract with the corporation as an in-

termediary is unnecessary. Furthermore, there has been submitted nothing to show authority in the corporation to pledge the services of such architects—even though they be stockholders of the corporation. But even if it be considered that the fact the architects are stockholders in the corporation confers on the corporation, under the by-laws the authority to so pledge and bind the architects in question, nothing would be gained by such an indirect route to accomplish what appears desired by the Commissioners—the personal services of the particular architects named in the proposed contract and, as stated, the contracting with the corporation as an intermediary would serve no useful purpose.

It may be stated further that section 3709, Revised Statutes, originated in the Act of March 2, 1861, 12 Stat. 220, at the time in the development of corporate history when the organization of a corporation by architects through which to pool their individual training, experience and skill unknown to the law. The personal services referred to in said section to be obtained without advertising, are services rendered by an individual directly to the Government, which services are to be obtained under the subsequent Civil Service Laws and in accordance with the Classification Act, except where specific authority is granted, as in the public resolution approved June 15, 1929, to secure the services otherwise. See 15 Op. Atty. Gen. 538; 6 Corp. Gen. 259; 9 id. 67. Section 3709, Revised Statutes permits contracting without advertising with a person who is to render the personal service but it does not permit contracting without advertising with an intermediary corporation such as The Allied Architects, Inc., which in turn is to secure the services of individuals to render through the corporation such personal service as is in question here.

Divisions of Contract

As will be observed the contract is divided into three parts. The one above designated as (c) requires the association to "perform all services necessary and required to fully inspect and supervise all construction in accordance with the contract or contracts entered into under (b) for the erection of the complete building." The plaintiff urges that this clause calls only for the services of a superintendent of construction and that such services must be obtained by bid. The defendants assert that as a matter of fact a great deal of professional skill enters into the services contemplated by that clause and quote from the contract entered into with the company that is engaged in construction of the building.

We have examined that contract and it seems to us that the services there mentioned are properly a part of (a) and (b) and not of (c). That being our view the case of Colorado Springs v. Coray, 25 Colo. App. 460, 139 Pac. 1031, is in point. That was a suit on a quantum meruit to recover the value of services as superintendent of construction of a city hall, and the act involved was Sec. 16, page 383, Laws 1891. That section provided that: "All work done by the city in the construction of works of public improvement of every kind, shall be done by contract (let) to the lowest responsible bidder, upon open bids, after ample advertisement." The Court of Appeals held that the act required bids for such services and that the employment of the superintendent having been made without bids was void. At page 475 the court said:

"There is no apparent necessity for exempting superintendents of construction from the statutory rule. It is a matter of common knowledge among people who deal in such matters, that architects and engineers of unquestioned ability and high reputation frequently, if not usually, offer their services as superintendents of construction upon a percentage of the contract price or upon some other basis.

And it will be observed that as in section 28 of the Denver Charter, so in the Act of 1891, the word "responsible" occurs, which modifies the effect of the word "lowest" and allows the exercise of that discretion thought to be so desirable in the securing of the services of architects and superintendents.

If it still be urged, however, that architectural services are to be included under (c) then the answer is to be found in Dalby v. Longmont, 81 Col. 271, 256 Pac. 310. Dalby was employed to superintend the finishing of a reservoir, he to furnish his own machinery and tools. The contract with him was rescinded and the question was whether his employment was valid. At the time the contract was entered into chapter 236, Laws 1921, providing that in works of public improvement cities shall not be required to obtain bids for technical and professional assistance, etc., was in effect, but this court held that the contract was invalid by reason of the lack of bids because Dalby's work was "at least not wholly technical, or professional, because he was to employ and did employ his own machinery and tools and was to be and was supervised by city officials."

Applied to the facts here that rule seems salutary, for it would be an easy matter else to evade the charter by the simple means of introducing a small item of professional service into a contract otherwise requiring the obtaining of bids. And so far as the question of supervision by city officials is concerned it is to be noted that here in the plans and specifications furnished to bidders on the contract to construct the building it was specifically set forth that "It is understood and agreed that the exclusive management and control of the construction of said building is, by the Charter of the City and County of Denver, expressly vested in the Manager of Improvements and Parks, and that thereunder all orders, certificates, plans and specifications are subject to and dependent upon his approval, for their validity."

Provision of Contract

That the contract falls within the doctrine of Colorado Springs v. Coray, supra, is made clearer

by quoting from one of its provisions. Article IV is as follows:

> The Architects shall fully supervise the construction of said Building, and will, to the best of their ability, safeguard the Owner against defects and deficiencies in materials and work and against noncompliance by any contractor with the terms of the contract.
>
> The Architects agree to employ, and to assume the expense of such employment, a competent building superintendent, who shall work under the direction of The Architects and who shall give constant supervision to all work under construction in the building. The employment of said building superintendent shall be made subject to the approval of the Mayor of the City and County of Denver, and the said Mayor shall have the power of dismissal of said building superintendent, in which event The Architects shall immediately employ, subject to the approval of the said Mayor, another building superintenndent, whose duties shall be those above mentioned, and in the event they should fail to make said appointment for a period of not to exceed five (5) days, said appointment shall be made by the Mayor, at the expense of The Architects, which they hereby assume and agree to pay; and The Architects will not be relieved of any responsibility by the Mayor making this appointment.

From this it will be seen that the services of a "competent building superintendent," not necessarily an architect, is to be furnished, and thus, for two reasons, the contract is bad. First, for the reasons upon which the Comptroller General based his conclusions and which we approve, and, second, because in any event competitive bids for such service must be had.

It is our conclusion, upon this phase, that (c) plainly contemplates services for which bids must be received under the charter.

We turn now to the question of the right of the association to engage in the practice of architecture at all. The provisions of the statutes (Sections 4679-4695) governing architects are not free from ambiguity. It is argued that because, in section 4692, it is provided that "Any person, firm or corporation engaged in the planning or supervision of the erection * * * of buildings for others * * * shall be regarded as an architect * * *." and that because, in Section 4691, as amended, it is provided that a fine shall be imposed upon any person, firm or corporation practicing architecture without a license, that the Legislature has given its approval to the practice of architecture by corporations. But we are not of opinion that any such result necessarily follows, for other sections, relating to qualifications and examinations, necessarily exclude such a motion.

We do not wish to be thought to say that the Legislature may not permit the granting of licenses to corporations, but to say that we are of opinion it has not done so. But counsel for defendants say that in the first place all the members of the association are licensed and that in the second place the association is really a partnership. The answer to the latter assertion is that the association is a corporation by the voluntary choice of its organizers. The answer to the first assertion is to be found in our decision in People v. Painless Parker Dentist, 85 Colo. 304, 275 Pac. 928, where at page 313, Justice Campbell said:

"It is however, altogether clear that the inhibition of the statute against the practice of dentistry in this State is applicable not only to natural persons, but it applies as well to an artificial person or a corporation, because, in the very nature of things, the corporation cannot meet the conditions upon which the right to license depends, and no one, whether an ordinary person or an artificial being, is entitled to practice unless, among other requirements, he first secures a license from our State Board of Dental Examiners.

"The many other arguments and suggestions of defendants counsel need not be considered. It would be a strange result to reach for a court to hold that because a private corporation cannot pass an examination and furnish a good moral character therefore it is not within the inhibition of the statute and may freely and without restriction engage in the practice of dentistry in this State without a license, whereas a citizen of this State, a human being may not possess or acquire the right to practice dentistry in this State unless he first procures a license therefor. The statute is broad enough to include both a human being or an artificial being, a private corporation."

We hold, therefore, that the association actually unlicensed, is as the law now is, incapable of becoming a licensed architect, and was incompetent to contract to furnish architectural services.

For the foregoing reasons the judgment is reversed and the cause remanded with instructions to proceed in harmony with the views here expressed.

Justice Butler dissents.

DOMESTIC ARCHITECTURE

An exhibition of residence architecture, featuring the work of Paul Williams, architect, was held last month in the Architects Building Material Exhibit, Fifth and Figueroa Streets, Los Angeles. Examples of the early California type of architecture, showing the adaptability of this style to homes of all sizes, was included in the display.

Outstanding in this collection of photographs, renderings and sketches, are those of the E. L. Cord residence, now under construction in Beverly Hills. This home is said to be an unusually fine example of the Southern Colonial style of architecture.

WITH the ARCHITECTS

HOLLYWOOD ARCHITECTS MEET

Re-election of the officers of the Architects' League of Hollywood who served during the past year was recommended by the nominating committee, consisting of M. L. Barker, chairman; Walter Fuesler and J. Robert Harris, in a report submitted at a meeting September 23. The annual election of the League was held October 7. The officers are: L. G. Scherer, president; V. B. McClurg, vice-president; J. A. Murrey, secretary-treasurer; directors, M. L. Barker, Ralph Flewelling, John Roth, James T. Handley and Donald F. Shugart.

RESIDENCES AND STORES

Ray Keefer, 770 Wesley Avenue, Oakland, reports considerable activity in residence work. He has lately completed plans for a house on Sunnyhill Road, Oakland, for E. Wells and a one story building on Lakeshore Avenue, Oakland, for Lionel Hoge; also, a two story stucco dwelling in Berkeley View Terrace for G. S. Mushet, and a brick store building at Lake Port and Rand Avenue, Oakland. A. L. Herberger is associated with Mr. Keefer.

BERKELEY RESIDENCE

With the return of better business conditions, Dr. Marshall C. Cheney, a member of the medical staff at the University of California Infirmary, plans to erect a Mediterranean style home on his recently acquired property, Tunnel Road, Berkeley. Preliminary plans for the house have been prepared by Dr. Cheney's brother, Charles H. Cheney of Palos Verdes Estates. Olmstead Brothers will do the landscape work.

BOHEMIAN CLUB BUILDING

The new San Francisco Bohemian Club building, being designed by Lewis P. Hobart, is to be of brick construction, somewhat similar in color to the old building. Plans for the $500,000 structure are expected to be ready for contractors to figure before the end of the year.

GROUP OF DWELLINGS

The firm of Kirnan and O'Brien is investing $250,000 in developing property adjoining Sutro Heights, San Francisco, with one and two story dwellings, plans for which are being prepared by Albert H. Larsen, 447 Sutter Street, San Francisco. The houses will vary in cost from $5,000 to $15,000 each. The program calls for a total of 187 dwellings, 80 of which will be one story and the remainder two story abodes.

TWELVE ROOM HOUSE

L. G. Scherer, 1510 N. Vermont Avenue, Los Angeles, has completed plans for a two-story dwelling to be built in Holmby Hills for Todd Johnston. The building will contain twelve rooms and will be of frame and stucco construction; tile and composition roof, hardwood floors, hardwood and pine trim, automatic storage water heater, and gas unit heating system.

ARCHITECT TO BUILD HOME

Clarence Cullimore, architect, of Bakersfield, has completed plans and awarded the contract for a Spanish-Colonial house for himself, to be built on the northwest corner of Oleander Avenue and 1st Street, Bakersfield, at an approximate cost of $20,000. Construction will be of adobe bricks.

BERKELEY Y. M. C. A. ADDITION

A contract has been let to David Nordstrom, 354 Hobart Street, Oakland, to build a two story brick addition to the Y. M. C. A. building on Milvia Street, near Alston Way, Berkeley, from plans by W. H. Ratcliff, Jr. The improvements will give the members larger gymnasium space.

BERKELEY POST OFFICE ADDITION

The Supervising Architect at Washington, D. C., has completed plans for a $150,000 addition to the Berkeley post office building. The annex will face on Milvia and Kittredge Streets. Bids are now being advertised.

STATE CONVENTION

The third annual convention of the State Association of California Architects at Riverside, October 10th and 11th, was attended by about 300 members. The address of Robert H. Orr, president, was an outstanding feature of the meeting. The 1932 convention will be held at Monterey. Albert J. Evers of San Francisco was chosen president. A complete list of the new officers appears on page 84 in this issue.

CORRECTION

In announcing the theater work in the office of Walker & Eisen, Limited, Los Angeles, the name of C. A. Balch, associated, was inadvertently omitted in news reports in recent issues of THE ARCHITECT AND ENGINEER. The work for the United Artists Theaters is being handled by Walker & Eisen, Ltd., and C. A. Balch, associated architects, as a separate and distinct organization from Walker & Eisen.

ARCHITECTS MOVE

Natt Piper and George W. Kahrs, have moved to 1224 Linden Avenue, Long Beach.

John Hollands has moved to 307 South Wetherly Drive, Beverly Hills.

Robert Vincent Derrah has moved to 454 Smithwood Avenue, Beverly Hills.

Charles F. Whittlesey is now at 1616 South Vermont Avenue, Los Angeles.

Postle & Postle have moved to 1144 South Grand Avenue, Los Angeles.

Paul C. Pape's new address is 6758 Milner Road, Los Angeles.

J. Thomas Payne has moved to 1261 North 55th Street, Los Angeles.

Raphael A. Nicolais has moved to 5225 Wilshire Boulevard, Los Angeles.

Karl W. Muck has moved to the Architects' Building, Los Angeles.

Edward L. Mayberry has moved to 342 South Flower Street, Los Angeles.

Russell E. Collins is now at 310 West 7th Street, Los Angeles.

JOHN E. DINWIDDIE has opened an office for the practice of architecture at 224 Underwood Building, San Francisco. Mr. Dinwiddie's telephone number is Exbrook 4670.

SAN JOSE SUBWAY

The contract has been awarded for a subway under The Alameda, San Jose, for the Southern Pacific Company, from plans by W. H. Kirkbride, company engineer. This is the second of several similar subways to be built under the railroad tracks and made necessary by a change of route of the main line. The company is to have a new depot, plans for which are being prepared by the railroad's architect.

SAN MATEO STORE BUILDING

A one story reinforced concrete and terra cotta store building is planned for Second Avenue and B Street, San Mateo, for Markel Brothers. Bids have been taken by the architects, Edwards & Schary, 550 Montgomery Street, San Francisco, the approximate cost being $65,000. There will be a total of eight stores.

TREICHEL AND GOODPASTOR BUSY

New work in the office of Treichel and Goodpastor, architects, Oakland, includes a one story steel frame and hollow tile market, Telegraph Avenue and Ward Street, Berkeley, a group of houses in San Mateo County for Cleveland Smith, and a house at Palo Alto for E. R. Hinrich.

REMODEL MARKET BUILDINGS

Plans have been completed by William H. Weeks, Underwood Building, San Francisco, for modernizing several market buildings owned by the City Properties, Inc. One of the markets is at Watsonville, another in Oakland and a third in Petaluma.

CITY MANAGER

Charles Edson Douglas of Long Beach has been elected city manager of Glendale. He served in the engineering corps in the World War, being mustered out with rank of major. He was city manager of Lawton, Okla., Newport News, Va., and Dubuque, Iowa.

MARRIED

Ellis Wing Taylor, architect, of Los Angeles, was married to Miss Anne Cornwall, noted screen star, at Yuma, Ariz., several weeks ago. The groom is associated with his brother, Edward Cray Taylor, in architectural practice.

LOS ANGELES BUILDING NOTES

C. A. Balch, Film Exchange Building, has prepared sketch plans for a new commercial building to be erected at the northwest corner of Hollywood Boulevard and Vine Street for Sol Lesser.

Aubrey St. Clair, 432 Athens Street, Pasadena, has presented sketches to the Laguna Beach city council for a city hall to be built adjoining the fire station, Laguna Beach.

San Clemente grammar school board has been petitioned to call a special election for the purpose of submitting a $30,000 bond issue, a portion of which would be used for the addition of two rooms to the grammar school and the improvement of school grounds.

Myron Hunt and H. C. Chambers, 1107 California Reserve Building, have prepared sketches for an addition to the Eagle Rock Presbyterian church to provide additional room for the Sunday school departments.

Firestone Tire & Rubber Company will erect a battery factory adjoining its tire manufacturing plant at Manchester Avenue and Alameda Street, South Gate, Los Angeles. Curlett & Beelman designed the tire factory. The equipment will represent an investment in excess of $100,000.

FILM EXCHANGE

Plans have been prepared by A. H. Knoll, architect, Hearst Building, San Francisco, for a two story reinforced concrete film exchange for Theodore Rulff. The contract has been let to G. P. W. Jensen, 320 Market Street, San Francisco, for approximately $20,000.

RIVERSIDE HOSPITAL

G. Stanley Wilson, 3646 Ninth Street, Riverside, has been commissioned by the Riverside county supervisors to prepare plans for a two-room addition to the psychopathic ward at the Riverside county hospital.

SACRAMENTO Y. W. C. A.

Working drawings are being prepared by Charles F. Dean, Sacramento, for a three story Spanish style club building for the Y. W. C. A. The cost is estimated at $145,000.

1931 COMPETITIONS—CONVENTIONS

November 17—Closing date for competition for a Roadside Commercial group. Santa Barbara. Address Miss Pearl Chase, Chairman, Plans and Planting Branch, C. A. A., 929 Paseo Carrillo, Santa Barbara, California.

December 1—Closing date for entries in 1931 Better Homes in America Competition. Address Better Homes in America, 1653 Pennsylvania Ave., Washington, D. C.

1932

January 25-29—Second International Heating and Ventilating Exposition, Cleveland. In conjunction with annual meeting of American Society of Heating and Ventilating Engineers.

1933—"A Century of Progress," International Exposition at Chicago.

ARCHITECTS' WORK EXHIBITED

The work of Marston and Maybury, architects, of Pasadena, was on display the first two weeks of this month at the Architects Building, Fifth and Figueroa Streets, Los Angeles. Many well known examples of California architecture, including the J. J. McCarthy residence in Pasadena and the home of Mrs. Helen D. Chandler in Altadena, were shown, besides photographs of a few of their semi-public buildings.

OPENS LOS ANGELES OFFICE

Karl W. Muck has severed his connection with the County of Los Angeles as their architect and has opened an office for the practice of architecture in the Architects' Building, Los Angeles. It is Mr. Muck's intention to specialize in public institutional buildings.

HILLSBOROUGH COUNTRY HOME

Gordon B. Kaufmann, architect, Union Bank Building, Los Angeles, has completed drawings for a $40,000 country house for Matt A. Harris at Hillsborough, San Mateo County.

VETERANS' MEMORIAL BUILDING

Davis-Pearce Company, Stockton, have been commissioned to prepare plans for a Veterans' Memorial Building, Santa Cruz, estimated to cost $60,000.

BUILDING CONGRESS COMMITTEE

A temporary executive committee to function in connection with the Building Congress of California has been appointed as follows:

Ownership—Clarence Holmes of the Office Building Owners and Managers Association; George Stimmel of the Crocker Estate Co.

Investment—H. R. Gaither, California Bankers' Association; Wm. Bouton, vice-president of the Building and Loan League and president of the Standard Building and Loan Association.

Supply—G. R. Kingsland of the Otis Elevator Co., Chas. M. Gunn of Gunn-Carle & Co.

Architects—F. H. Meyer and A. J. Evers.

Engineers—C. H. Snyder and H. J. Brunnier.

Contractors—John Cahill and H. J. Christensen.

Sub-Contractors—Wm. H. George, president of the San Francisco Builders' Exchange and E. J. G. Kennedy of the Pacific Manufacturing Co.

Related—C. J. Struble, California Land Title Association, Oakland, and J. Lester Miller. Building Industries Association of San Jose.

ARCHITECT SEEKS COMPENSATION

Edgar A. Mathews, architect, of San Francisco, who designed the original manual training building at the Sacramento High School which was destroyed by fire recently, has demanded of the Sacramento Board of Education that it compensate him for the use of his plans in the reconstruction of the building.

At its last meeting the school board instructed Chas. C. Hughes, superintendent of schools, to notify Mr. Mathews that his plans have not been used in designing the new structure.

Jens C. Petersen, was employed to draw the plans and the board claims the new building, now being erected, differs in many particulars from the original structure designed by Mathews.

C. H. SKIDMORE

Chas. Henry Skidmore, architect, died suddenly from a heart attack in a San Francisco hotel last September 19. Mr. Skidmore was a native of San Mateo and was 60 years old. He was a graduate of St. Mary's College and for a time was employed in the office of the late Willis Polk. He had lived in Berkeley for 30 years.

ANENT LLOYD WRIGHT CRITICISM

(From the San Francisco Chronicle)

San Francisco architects refuse to joust with words against Frank Lloyd Wright, Chicagoan, for his criticism of California home architecture.

Wright, noted for years as a foe of the modern skyscraper, said in a New York interview that the "houses in California—Mexican, Hispanic and Hopi — are more atrocious than the skyscrapers in New York."

Generally they thought Wright was entitled to his opinion, and they would continue to hold to theirs. Irving Morrow said the Chicago architect's "judgment of California architecture was justified in a great measure."

But Bernard R. Maybeck thought architecture should be considered from the standpoint of the individual's tastes.

"The Mexican," he said, "has certain dreams, and these dreams he tries to fulfill in the design of his home.

"Paris is a city of architectural beauty to the Parisians. To Americans it soon becomes tiresome."

Wright wars on the modern skyscraper as not a thing of beauty—as a product of the steel engineer instead of the architect, a framework covered with masonry.

On this Timothy L. Pflueger disagrees, from an economical standpoint. Copper and glass-covered buildings, advocated by Wright on esthetic grounds, do not stand up as well as the stone of concrete covered steel frameworks, Pflueger says.

All of the architects agreed that Wright was an outstanding leader in a new field.

"Of its kind," Maybeck said, "the work he is doing is far ahead of anything done by architects. We must respect him for that."

Julia Morgan, one of the few successful women architects in the world, confined her comment on Wright's criticism of California architects to these six words:

"Probably he was not feeling well."

HIGH SCHOOL ADDITION

Marsh, Smith & Powell, Architects Building, have been commissioned by the Los Angeles board of education to prepare plans for a 16-unit addition to be erected at the Hollywood high school, 1521 N. Highland Avenue, Los Angeles. Appropriation for the work is $100,000.

SOCIETY and CLUB MEETINGS

WASHINGTON STATE CHAPTER

On Thursday, September 10th a special meeting of Washington Chapter was held in the clubhouse of the Broadmoor Golf Club, Seattle. Correspondence was read from the Chapter group in Spokane, and also from the Spokane Chamber of Commerce requesting that the Chapter send a delegate to the conference on government work held in Spokane September 12.

Before considering customary reports of committees, Mr. Allen presented a proposed amendment to the Chapter By-Laws establishing the meeting in September as a regular Chapter meeting. It was voted to make this a part of the regular order of business for the October meeting.

A report from the Committee on Public Information was presented by Mr. Vogel, chairman. This reviewed the various activities of the committee, the radio programs conducted by the State College of Washington, and the work of the Tacoma group in getting articles on architecture in the Tacoma Ledger. The committee had obtained from the Illinois Society of Architects a full set of copies of their Bulletin on the functions of the architect.

A report was made by the Committee on Public Information on the proposal to advertise in the Seattle Telephone Directory, as is done by the King County Medical Society. The committee believed that while this publicity might be beneficial to the medical profession it should not be undertaken by the Chapter at this time when a unification of the architectural profession was being given preliminary consideration. After some discussion on this proposed advertising the report of the Committee on Public Information was adopted.

President Borhek read a letter from Edwin Bergstrom, Chairman of the Institute Committee on Unification of the Architectural Profession, referring to the preliminary report of his committee. The Chapter's comments and criticisms being requested by Mr. Bergstrom, it was voted that the Chapter approve the report in principle and commend the efforts of the committee.

For the Committee on Professional Practice, Mr. Holmes reported the names of members who had agreed to support the proposed schedule of charges. Report was also made of a conference of school architects for the purpose of standardizing fees for this class of work.

For the Committee on Government Work, Mr. Holmes reported that a number of petitions had been circulated and signed by various organizations and groups and sent to the Government officials in Washington.

Proposals in connection with city planning were presented by Mr. Alden, Chairman of the City Plan Committee. A letter from the President of the King County Regional Planning Commission, advocating a survey to be made immediately of the territory bordering on Lake Washington, with a view to securing adequate unified effort to get a Metropolitan sewer system to prevent the future pollution of Lake Washington from discharge of sewage.

The attention of the Chapter was called to the passing to John Galen Howard, who had been intimately connected with the Chapter in earlier days, and it was voted that appropriate expressions of sympathy be sent to Mrs. Howard. Expressions of sympathy were also voted to be sent to a former member, A. F. Menke, on the loss of his wife.

* * *

A special Chapter meeting for the purpose of considering the proposed plan for the building industry submitted at the regular September meeting by the Tacoma Society of Architects and mailed to the Chapter members, was held at the College Club, Seattle, September 23.

President Borhek announced that during October the Chapter would have a brief visit from President Kohn of the Institute and from Regional Director Fred F. Willson.

* * *

BUILDING INDUSTRY CONFERENCE

The Building Industry Conference sponsored by the Spokane Chamber of Commerce, held in Spokane, September 12, was participated in by members of Congress and leading professional

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and business men in addition to those associated with the building industry.

Besides President Roland E. Borhek, who officially represented the Washington State Chapter, other Institute members attending were Fred F. Willson, Bozeman, Montana, Regional Director A. I. A.; H. W. Doty of Portland, President of the Oregon State Chapter; Fred G. Grounds of Tacoma; Stanley A. Smith of Pullman; Harry C. Weller, Pullman; Ogden F. Beeman of Spokane; George A. Pehrson, Spokane; Harold C. Whitehouse, Spokane. A total of twenty architects attended the Conference.

The following resolution, referring to the governmental practice of architecture, was passed:

"It is accordingly recommended that the need for appropriate legislation to deal with this question be urged upon our representatives in Congress and that the delegates to this meeting unite with other organizations having similar programs in demanding that the work of these offices be decentralized; that the United States Government in all its departments quit the Architectural and Building Construction field to the extent that its present occupancy brings it into competition with private business, and it is particularly urged that native materials be selected for federal building projects where such materials in the judgment of competent authority are suitable inasmuch as this will tend to distribute the labor involved in their preparation and emphasize the materials characteristic of each region."

Some interesting facts were disclosed at the meeting and a more extended report of the proceedings will be published in this magazine next month.

* * *

NORTHWEST PLANNING CONFERENCE

The Fourth Annual Conference of the Pacific Northwest Association of Planning Commissions was held in Vancouver, B. C., September 11-12.

Professor F. E. Buck of the University of British Columbia, in his annual address, called attention to the changing conditions which constantly presented new problems in planning and which must be recognized if planning is to be effective. Following this address, city and town planning progress in the United States and Canada was ably presented by John E. Carroll, City Councilman of Seattle, Director of the National Conference on City Planning, and Stewart Young, and Horace L. Seymour, Directors of Town Planning in the Canadian provinces of Saskatchewan and Alberta.

The feature of the afternoon session was an address on "Financing Street Widenings and Extensions by the Assessment Plan," by Otway Pardee of the Seattle Eminent Domain Commission.

MONEL METAL

Here's a testimony that speaks for itself....

JONATHAN CLUB

Los Angeles,
California,
May6th,
1 9 3 1.

Pacific Metals Company, Ltd.,
470 East Third Street,
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Gentlemen:

We used Monel Metal exclusively for our kitchen equipment when the Jonathan Club was built over five years ago, and we are pleased to state that it has been entirely satisfactory and has a better appearance now than when first installed. We know of no other material which we consider its equal. In remodelling our new beach club we again used Monel Metal in the kitchen.

It has been a real pleasure to work in this kitchen with its Monel equipment and its clean bright appearance is always easy to maintain.

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Very truly yours,

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NORTHERN CALIFORNIA CHAPTER

The Northern California Chapter, the American Institute of Architects, in convening for its first fall meeting, met jointly with the State Association of California Architects, in the St. Francis Hotel, San Francisco, on Tuesday evening, September 29th.

Before proceeding with the scheduled program, a short period was devoted to Chapter affairs during which Mr. Gutterson presided. He spoke of the many matters which are before the Directors. As an example, he read the minutes of the last directors' meeting, so that the members might have a cross section of the problems confronting the officers of the Chapter, and how these are disposed of.

Mr. Stringham outlined the plans of the Exhibit Committee for the bienniel exhibit to be held in the summer of 1932, and for a preliminary exhibit to be held in November, 1931.

The sorrow and loss to the Chapter caused by death of an esteemed member, John Galen Howard, was feelingly spoken of by Mr. Gutterson. At his request, Mr. Perry read a resolution, commemorative to Mr. Howard. A motion was presented that the resolution be accepted and placed upon the minutes of this meeting; that an appropriately inscribed copy be sent to Mrs. Howard; and that other copies be sent to the Octagon in Washington, D. C., and to the School of Architecture of the University of California.

In keeping with the instruction, a copy of the resolution is placed herein, as follows:

John Galen Howard succumbed on July 27th of this year to a heart attack. The suddenness of his death was a great shock to his host of friends and in his passing, this society, the profession of Architecture and the commonwealth have sustained a heavy loss.

Though he is gone from our midst, we know that his spirit lives in the sphere wherein he moved and had his being. His sound philosophy, his high ideals ever uncompromised by circumstance, remain as beacons on uncertain shores.

Born in Chelmsford, Massachusetts in 1864, he studied at the Boston Latin School and the Massachusetts Institute of Technology, then after an apprenticeship in the great offices of H. H. Richardson, Rutan & Coolidge and McKim, Mead & White, he spent five years at l'Ecole des Beaux Arts under Laloux. Following three more years in Paris, he started his practice in New York. In 1901 he removed his office to California, where for thirty years he occupied a position of leadership in his profession.

An enlightened and scholarly man far above the ordinary, Mr. Howard brought to his work clear logic, thoroughness and the undiminished enthusiasm of youth. In the conduct of his office, he was more father than employer, and by example he enobled each undertaking and made worthy the lesser tasks of his associates.

His earlier independent works, including among others the Hotel Renaissance in New York, the Majestic Theater of Boston, the Public Library of Montclair, New Jersey, and particularly the Electric Tower of the Buffalo Exposition which he designed as member of its Architectural Board, were characteristic accomplishments in the fresh vigor of their attack and the refinement of their study. It remained however for our Western Coast with its youth and spirit of achievement to strike in him a sympathetic chord. It was here that he spent his most productive years and, in his all too short period of maturity, left here his greatest heritage.

A distinguished participator in the Phoebe Apperson Hearst Competition, after the relinquishment of the actual work by M. Benard, Mr. Howard was called to Berkeley to erect the Hearst Memorial Mining Building and remained as supervising architect to developed the Hearst plan for the University of California. To this epic in group design, he gave unsparingliy of himself through over twenty years and by his steadfast and unswerving adherence to high principles, brought to fruition a large part of that conception. The steps of its development are marked by splendid buildings, each a worthy climax to a full career. The California Hall, the Greek Theatre, the Doe Library, Agriculture Hall, the Sather Tower, the Stephens Union, Le Conte, Gilman, Hesse, Hilgard and Haviland Halls, stand as eloquent testimony to his genius.

His practice, at one time very extensive, reached far beyond the confines of the Campus. In the partnership of Howard and Galloway, he designed the Italian American Bank Building, the Adam Grant Building and many others in San Francisco and the Bay Region and as a mem-

ber of the Board, was architect for several buildings for the Alaska-Yukon-Pacific Exposition. Following a long period of practice under his own name, as head of the firm of John Galen Howard & Associates, he designed several works, most noteworthy of which were the First Congregational Church of Oakland and the Le Conte School, San Francisco.

His recognized wisdom, his impeccable character and his broad understanding of all the phases of his art, brought many demands to serve as judge or advisor to Boards and Commissions, always with honor to himself and to the profession. As Chairman of the Advisory Board of the San Francisco Civic Center, he was largely responsible for its success as a whole as well as for the design of the Exposition Auditorium. Again he showed the quality of leadership when as Chairman of the California Memorial Stadium Commission, he guided that important project to fulfillment.

Yet with all his extensive practice, Mr. Howard found fields for other talents. Director of the School of Architecture of the University of California, which he founded, and Professor of Advanced Design were titles that he bore with the utmost distinction. But to him these names stood merely as symbols of an opportunity. During the thirty richest years of his life, he ministered to the minds and hearts of youth, planting therein the seeds of learning and tending the young shoots with that most subtle touch of teacher art—suggestion born of real inspiration and experience. Thus was kindled a reciprocal affection with those who worked under him that burned undiminished with the passing years. A Captain in the Red Cross during the Great War, he became after the Armistice, a member of the Army Education Commission and during the life of that body, lectured in France before soldier-students at Bellevue and Beaune.

Lastly, as an author, Mr. Howard held an enviable position, the best of his works being the two descriptive poems, "Brunelleschi" and "Pheidias". In the latter of these lofty epics, particularly his understanding friends find mirrored that conception of a fullsome life—which was his own.

His many activities linked him naturally with other men of accomplishment in fields of high endeavor. He was a Fellow of the American Institute of Architects, an Associate National Academician, member of the National Institute of Arts and Letters and of The Century Club, Charter Member of the Society of Beaux Arts Architects, member of the Architectural League of New York, the Archaeological Institute of America, The Authors Club of London and of the Advisory Council of the American Academy in Rome.

With this wide range of interests, he enjoyed intensely the drama of human existence and all its actors. From it he drew with rare discernment the best to enrich his own great qualities. His sincerity, his wisdom, his deep faith in the rightness of things, together with his fine enthusiasm placed him high in the ranks of men.

We sympathize with his bereaved ones and mourn our own great loss.

This concluded the Chapter affairs and the meeting was turned over to Mr. Roeth, Chairman of the Northern Section of the Association, who presided for the remainder of the evening.

A welcome was extended to the architects who had received their certificates the previous year, and who were present as guests. The men introduced were: Messrs. Dale F. Thompson, Wallace Stephen, Otto Hinterman, Robert Nordin, Conrad Kett, Wm. H. Rowe, Herbert Goodpastor.

Mr. Donovan greeted them in behalf of the Association and the Chapter, and addressed them upon the responsibility which they must now shoulder in observing and maintaining the high standards of the profession.

Wm. I. Garren, Treasurer of the Association, presented the financial statement of the organization.

Albert J. Evers, Chairman of the Legislative Committee, reported upon legislative matters with which the committee had dealt during the past year.

As Chairman of the joint committee to co-ordinate the activities of the Association and the Chapter, he also submitted a report, recommending various distribution of functions so that the efforts of the two organizations would not be overlapping. This report was approved by the Association. Mr. Gutterson announced that it had been approved in principle by the Directors of the Chapter and would later be submitted to

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The floors in all the buildings of the University of California at Los Angeles, shown above, were cured and protected with Sisalkraft. The close-up at the right shows the excellent condition of the floor in the Coca Cola plant at Los Angeles after curing under Sisalkraft.

The Marymount School, Los Angeles, is using 60,000 sq. ft. of Sisalkraft both for curing and protecting floors and also as a positive bond breaker under the terrazzo. The architect on this job is Ross Montgomery, Los Angeles, and the contractor is MacDonald & Driver, Los Angeles.

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the Chapter for action, subject to the approval of the Institute.

Harris C. Allen told of the formation of the Building Congress of California, and of its adoption by the California State Chamber of Commerce as one of its major activities. Through this sponsorship, outstanding results are expected to follow.

The failure of architects, as a group, to establish themselves as leaders in a great art, was forcefully dwelt upon by Frederick H. Meyer.

It was his opinion that the recent development of State Associations, being inclusive of all architects in such areas, betokened a coming change. By this means, it would be possible when affiliated with and under the leadership of the Institute as a National body, to present a united force, capable of placing architecture on a much higher pinnacle than in the past.

The program which has been launched to effect such an organization, was outlined, and the joint report of the Unification Committees of the Institute and State Societies was explained.

George W. Kelham spoke upon "Cooperation Within the Profession". Credit was extended to the California architects for being the first to put forward the idea of a state-wide organization. For this and other accomplishments which they are performing, prestige should accrue to them.

The older members of the profession were urged to continue in the harness and back up the younger men who are carrying the bulk of the load in organization work. Building Congresses and Craftsmanship awards were featured as important means towards bringing the whole broad field of the building industries into the picture.

In conclusion, it was stated that it could not by individual effort but only when bonded together for success and encouragement, and the advancement of the profession, that the architects might expect attainment of this aim.

At its conclusion, the motion was made and carried that the principles of the program for unification be approved and that the Executive Board of the Association be instructed to convey this action to the Convention.

Like action was taken by the Chapter with the instruction that its approval be conveyed to the Directors of the Institute.

The motion was made and carried, that a letter be sent to Robert Orr, former President of the State Association, stating the action of the Chapter in support of this program, and conveying its appreciation of his effort toward unification.

—J. H. M.

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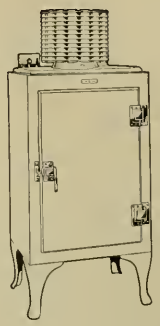

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BIG BANKS in the metropolitan centers build substantially and for the distant future. They know that their bank buildings are monuments to their banking businesses and that every stone, every piece of steel, every hinge, lock, and pane of glass must reflect the high character of the institution. The electrical wiring (actually only a fraction of one per cent of the cost of the structure) must be of fine quality that it may serve dependably for many years.
This subject of electrical wiring is much more important than its small cost would indicate. Actually, the successful and convenient use of a modern building depends upon how well it is done. Circuits that occasionally give trouble may deprive tenants of lighting, of power for their essential business machinery, of communication, of ventilatiton or of the free use of elevators. Skimping on the quality of electrical wires is a sure way to invite dissatisfacttion from tenants.
It is cheaper in the end to follow the example of the National Newark and Essex Bank — install Hazard Electrical Building Wires and Cables throughout and thus depend on the known quality of a standard brand of insulated wire.

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SPOKANE ARCHITECTS

One of the first results of the association of Spokane Society of Architects is evident in the statement of the county commissioners that they will employ private architects to prepare plans for county buildings.

This work, having been done by county engineers, has been displacing architectural draftsmen from what is their profession in a field which is architectural.

A feature of this employment of men untrained in architecture may be noted in the statement of Archie Rigg, architect:

"In every case where engineering department have prepared building plans there has been a failure."—*Washington State Architect.*

ARMCO ON THE AIR AGAIN

The Armco concert band—will be heard 'round the world this winter. During previous broadcasting seasons so many requests were received from Latin American and other foreign countries that it was decided to broadcast these programs over short wave station W8XAL, in addition to the 50,000 watt transmitter of Station WLW in Cincinnati.

The first radio concert was held on Monday night, October 19th, between 9:00 and 9:30 Eastern Standard time. Geo. M. Verity, Chairman of the Board of The American Rolling Mill Company, spoke on the subject "There can be no end to progress." During Mr. Verity's long and interesting career as an industrial executive he has always been an interested student of business economies and human affairs, and he has studied intently the hills and valleys through which the tide of business has flowed.

One of the special features of the broadcasting season will be the playing on each program of one of the competition numbers chosen for the high school bands in the different states by the Board of the National High School Band contest. The same selections will later be played by the various high school bands in their 1932 contests, and the interpretation of these contest competition numbers by a nationally-known musical organization should be of great help to these junior bandsmen. To cooperate in the development of better musicians among these youthful organizatious. Frank Simon, conductor of the Armco Concert Band, John Phillip Sousa, Edwin Franko Goldman, and other famous bandmasters, have acted as judges and coaches in the numerous state high school band contests, and in the national contest recently held in Tulsa, Oklahoma.

The radio season will extend over a period of 26 weeks; all broadcasts will be given on Monday nights, at the time mentioned above.

Estimator's Guide

Giving Cost of Building Materials, Wage Scale, Etc.

Amounts quoted are figuring prices and are made up from average quotations furnished by material houses to three leading contracting firms of San Francisco.

This month—Note the raise in prices of marble, tile and granite. Lower prices for linseed oil, turpentine, hardwoods, steel and lumber.

All prices and wages quoted are for San Francisco and the Bay District. There may be slight fluctuation of prices in the interior and southern part of the state. Freight cartage, at least, must be added in figuring country work.

Overtime in wage scale should be credited with time and a half, Sunday and holidays double.

Bond—1½% amount of contract.

Brickwork—
Common, $31 to $36 per 1000 laid, (according to class of work).
Face, $70 to $90 per 1000 laid, (according to class of work).
Brick Steps, using pressed brick, $.90 lin. ft.
Brick Walls, using pressed brick on edge, 60c sq. ft. (Foundations extra.)
Brick Veneer on frame buildings, $.80 sq. ft.
Common, f. o. b. cars, $12.50 plus cartage.
Face, f. o. b. cars, $45.00 per 1000, carload lots.

HOLLOW TILE FIREPROOFING (f.o.b. job)

3x12x12 in.	$ 68.00 per M
4x12x12 in.	76.50 per M
6x12x12 in.	105.00 per M
8x12x12 in.	170.00 per M

HOLLOW BUILDING TILE (f.o.b. job) carload lots).

8x12x5½	$76.50
6x12x5½	59.50

Composition Floors — 18c to 30c per sq. ft. In large quantities, 18c per sq. ft. laid.
Durailex Floor—23c to 30c sq. ft.
Rubber Tile—55c per sq. ft.
Terazzo Floors—50c to 60c per sq. ft.
Terazzo Steps—$1.50 lin. ft.
Mosaic Floors—80c per sq. ft.

Concrete Work (material at San Francisco bunkers) — Quotations below 2000 lbs. to the ton.

No. 3 rock, at bunkers	$1.65 per ton
No. 4 rock, at bunkers	1.65 per ton
Eliot pea gravel, at bnkrs.	1.75 per ton
Washed gravel, at bunkrs	1.75 per ton
Eliott top gravel, at bnkrs.	1.75 per ton
City gravel, at bunkers	1.40 per ton
River sand, at bunkers	1.50 jer ton
Delivered bank sand	1.10 cu yd.

Note—Above prices are subject to discount of 10c per ton on invoices paid on or before the 15th of month, following delivery.

SAND
Del Monte, $1.75 to $3.00 per ton.
Fan Shell Beach (car lots, f. o. b. Lake Majella), $2.75 to $4.00 per ton.
Cement, $2.24 per bbl. in paper sks.
Cement (f.o.b. Job, S. F.) $2.44 per bbl.
Cement (f.o.b. Job, Oak.), $2.64 per per bbl.
Rebate of 10 cents bbl. cash in 15 days.
Medusa "White" .....$ 8.50 per bbl.
Forms, Labors average 22.00 per M.
Average cost of concrete in place, exclusive of forms, 28c per cu. ft.
4-inch concrete basement floor.....13c to 14c per sq. ft.
4½ inch Concrete Basement floor .....13c to 14c per sq. ft.
2-inch rat-proofing....6½c per sq. ft.
Concrete Steps.....$1.10 per lin. ft.

Dampproofing and Waterproofing—
Two-coat work, 18c per yard.
Membrane waterproofing—4 layers of saturated felt, $5.00 per square.
Hot coating work, $1.80 per square.
Medusa Waterproofing, 15½c per bbl, San Francisco Warehouse.

Electric Wiring — $2.75 to $8.50 per outlet for conduit work (including switches).
Knob and tube average $2.25 to $5.00 per outlet, including switches.

Elevators—
Prices vary according to capacity, speed and type. Consult elevator companies. Average cost of installing an automatic elevator in four-story building, $2450; direct automatic, about $2400.

Excavation—
Sand, 40 cents; clay or shale, 90c per yard.
Teams, $10.00 per day.
Trucks, $20 to $25 per day.
Above figures are an average without water. Steam shovel work in large quantities, less; hard material, such as rock, will run considerably more.

Fire Escapes—
Ten-foot balcony, with stairs, $65.00 per balcony.

Glass (consult with manufacturers)—
Double strength window glass, 15c per square foot.
Quartz Lite, 50c per square foot.
Plate 80c per square foot.
Art, $1.00 up per square foot.
Wire (for skylights), 27c per square foot.
Obscure glass, 25c square foot.
Note—Add extra for setting.

Heating—
Average, $1.60 per sq. ft. of radiation, according to conditions.

Iron—Cost of ornamental iron, cast iron, etc., depends on designs.

Lumber (prices delivered to bldg. site)
Common, $24.00 per M (average).
Common O. P. select, average, $28.00 per M.

1 x 6 No. 3—Form Lumber	$15.00 per M
1 x 4 No. 1 flooring VG	58.00 per M
1 x 4 No. 2 flooring	50.00 per M
1 x 4 No. 3 flooring	40.00 per M
1 x 6 No. 2 flooring	52.00 per M
1¼x4 and 6 No. 2 flooring	60.00 per M

Slash grain—

1 x 4 No. 2 flooring	$35.00 per M
1 x 4 No. 3 flooring	32.00 per M
No. 1 common run to T. & G.	28.00 per M
Lath	5.00 per M

Shingles (add cartage to prices quoted)—

Redwood, No. 1	$ .85 per bdle.
Redwood, No. 2	.65 per bdle.
Red Cedar	.85 per bdle.

Hardwood Flooring (delivered to building)—

13-16x3¼" T & G Maple	$105.00 M ft.		
1 1-16x2¼" T & G Maple	135.00 M ft.		
⅞x3½ sq. edge Maple	122.50 M ft.		
	13-16x2¼" T&G	⅞x2" T&G	5-16x2" Sq.Ed.
Clr. Qtd. Oak	$200.00 M	$145.00 M	$168 M
Sel. Qtd. Oak	130.00 M	107.00 M	121 M
Clr. Pla. Oak	125.00 M	95.00 M	103 M
Sel. Pla. Oak	112.00 M	70.00 M	87 M
Clear Maple	127.00 M	88.00 M	

Laying & Finishing 16c ft. 15c ft. 13c ft.
Wage—Floor layers, $9.00 per day.

Building Paper—

1 ply per 1000 ft. roll	$2.80
2 ply per 1000 ft. roll	4.2"
3 ply per 1000 ft. roll	5.50
Sisalkraft, 500 ft. roll	5.50
Sash cord com. No. 7	$1.00 per 100 ft.
Sash cord com. No. 8	1.10 per 100 ft.
Sash cord spot No. 7	1.60 per 100 ft.
Sash cord spot No. 8	1.90 per 100 ft.

Sash weights cast iron, $45.00 ton
Nails, $2.85 base.
Belgian nails, $2.60 base.

Millwork—
O. P. $75.00 per 1000. R. W., $80.00 per 1000 (delivered).
Double hung box window frames, average, with trim, $5.00 and up. each.
Doors, including trim (single panel, 1¾ in. Oregon pine) $6.00 and up, each.
Doors, including trim (five panel. 1¾ in. Oregon pine) $5.75 each.
Screen doors, $3.50 each.
Patent screen windows, 20c a sq. ft.
Cases for kitchen pantries seven ft. high, per lineal ft., $4.25 each.
Dining room cases, $5.50 per lineal foot.
Labor—Rough carpentry, warehouse heavy framing (average), $11.00 per M.
For smaller work, average, $22 to $30 per 1000.

Marble—(Not set), add 50c to 65c per ft. for setting.

Alaska	$1.50 sq. ft.
Columbia	1.50 sq. ft.
Golden Vein Yule Colo.	1.90 sq. ft.
Pink Lepanto	1.60 sq. ft.
Italian	2.00 sq. ft.

NOTE — Above quotations are for ⅞ inch wainscot in large slabs f.o.b. factory. Prices on all other classes of work should be obtained from the manufacturers.

Floor Tile—Set in place.

Verde Antique	$2.50 sq. ft.
Verde Antique	3.00 sq. ft.
Tennessee	1.50 sq. ft.
Alaska	1.35 sq. ft.
Columbia	1.45 sq. ft.
Yule Colorado	1.60 sq. ft.
Travertine	1.60 sq. ft
Tennessee	1.70 sq. ft.

Painting—

Two-coat work	27c per yard
Three-coat work	36c per yard
Cold Water Painting	8c per yard
Whitewashing	4c per yard

Turpentine, 80c per gal, in cans and 65c per gal. in drums.
Raw Linseed Oil—73c gal. in bbls.
Boiled Linseed Oil—76c gal. in bbls.
Medusa Portland Cement Paint, 20c per lb.

Carter or Dutch Boy White Lead in Oil (in steel kegs).

	Per Lb.
1 ton lots, 100 lbs. net weight	11¾c
500 lb. and less than 1 ton lots	12c
Less than 500 lb. lots	12½

Dutch Boy Dry Red Lead and Litharge (in steel kegs).

1 ton lots, 100 lb. kegs, net wt.	11¾c
500 lb. and less than 1 ton lots	12c
Less than 500 lb lots	12½c

Red Lead in Oil (in steel kegs)

1 ton lots, 100 lb. kegs, net wt.	13¼c
500 lb. and less than 1 ton lots	13½c
Less than 500 lb. lots	14c

Note—Accessibility and conditions cause wide variance of costs.

Patent Chimneys—

6-inch	$1.00 lineal foot
8-inch	1.50 lineal foot
10-inch	1.85 lineal foot
12-inch	2.10 lineal foot

Pipe Casings — 12" long (average), $8.00 each. Each additional inch 10c.

Plastering—Interior—

	Yard
1 coat, brown mortar only, wood lath	$0.36
2 coats, lime mortar hard finish, wood lath	.45
2 coats, hard wall plaster, wood lath	.50
3 coats, metal lath and plaster	.90
Keene cement on metal lath	1.10
Ceilings with ¾ hot roll channels metal lath	.65
Ceilings with ¾ hot roll channels metal lath plastered	1.30
Shingle partition ¾ channel lath 1 side	.60
Single partition ¾ channel lath 2 sides 2 inches thick	2.00
4-inch double partition ¾ channel lath 2 sides	1.20
4-inch double partition ¾ channel lath 2 sides plastered	2.25

Plastering—Exterior—

	Yard
2 coats cement finish, brick or concrete wall	$ .90
2 coats Atlas cement, brick or concrete wall	1.15
3 coats cement finish No. 18 gauge wire mesh	1.60
3 coats Medusa finish No. 18 gauge wire mesh	2.90
Wood lath, $4.00 per 1000.	
2.5-lb. metal lath (dipped)	.15
2.5-lb. metal lath (galvanized)	.18
3.4-lb. metal lath (dipped)	.20
3.4-lb. metal lath (galvanized)	.25
¾-inch hot roll channels, $45 per ton.	
Hardwall plaster, $15.40 ton; $12.95 in paper sacks (rebate 16c sack).	
Finish plaster, $16.40 ton; in paper sacks, Dealer's commission, $1.00 off above quotations.	
$13.55 (rebate 10c sack).	
Lime, f.o.b. warehouse, $2.25bbl.; cars, $2.15	
Lime, bulk (ton 2000 lbs.), $16.00 ton.	
Wall Board 5 ply, $43.00 per M.	
Hydrate Lime, $19.50 ton.	

Composition Stucco—$1.35 to $1.75 per sq. yard (applied).

Plumbing—

From $58.00 per fixture up, according to grade, quantity and runs.

Roofing—

"Standard" tar and gravel, $5.00 per square for 30 squares or over.
Less than 30 squares, $5.25 per sq.
Tile, $17.00 to $30.00 per square.
Redwood Shingles, $11.00 per square in place.
Cedar Shingles, $10 sq. in place.
Recoat, with Gravel, $3.00 per sq.

Sheet Metal—

Windows—Metal, $1.80 a sq. foot.
Fire doors (average), including hardware, $2.00 per sq. ft.

Skylights—

Copper, $1.00 sq. ft. (not glazed).
Galvanized iron, 25c sq. ft. (not glazed).

Stone—

Granite, average, $7.00 cu. foot in place.
Sandstone, average Blue, $3.50; Boise, $2.60 sq. ft. in place.
Indiana Limestone, $2.60 per sq. ft. in place.

Store Fronts—

Copper sash bars for store fronts, corner, center and around sides, will average 70c per lineal foot.
Note—Consult with agents.

Steel Structural—$85 per ton (erected). This quotation is an average for comparatively small quantities.
Light truss work higher; plain beam and column work in large quantities, less.
Cost of steel for average building (erected), $83.00 to $90.00 per ton.

1931 WAGE SCHEDULE FOR SAN FRANCISCO BUILDING TRADES

Fixed by the Impartial Wage Board
Indorsed by Architects, General and Sub-Contractors, Municipal, State and Federal Governments.

Craft	Journeymen Mechanics
Asbestos workers	$ 8.00
Bricklayers	11.00
Bricklayers' hodcarriers	7.00
Cabinet workers, (shop)	7.50
Cabinet workers, (outside)	9.00
Carpenters	9.00
Cement finishers	9.00
Electric workers	9.00
Electrical fixture hangers	8.00
Elevator constructors	10.00
Elevator helpers	7.00
Engineers, portable and hoisting	9.00
Glass workers	8.50
Hardwood floormen	9.00
Housemovers	8.00
Housesmiths, arch. iron, skilled all branches	9.00
Housesmiths, arch. iron, not skilled all branches	8.00
Housesmiths, reinforced concrete, or rodmen	9.00
Iron workers (bridge & structural) including engineers	11.00
Laborers, building (6-day week)	5.50
Lathers, channel iron	10.00
*Lathers, all other	8.50
Marble setters	10.00
Marble helpers	6.00
Marble cutters and copers	8.00
Marble bed rubbers	7.50
Marble polishers and finishers	7.00
Millmen, planing mill department	7.00
Millmen, sash and door	6.00
Millwrights	8.00
Model makers	10.00
Model casters	9.00
Mosaic and Terrazzo workers	9.00
Mosaic and Terrazzo helpers	6.00
Painters	9.00
Painters, varnishers and polishers (shop)	7.50
Painters, varnishers and polishers (outside)	9.00
Pile drivers and wharf builders	9.00
Pile drivers engineers	10.00
Plasterers	11.00
Plasterers' hodcarriers	7.50
Plumbers	10.00
Roofers, composition	8.00
Roofers, all others	8.00
Sheet metal workers	9.00
Sprinkler fitters	10.00
Steam fitters	10.00
Stair builders	9.00
Stone cutters, soft and granite	8.50
Stone setters, soft and granite	9.00
Stone carvers	8.50
Stone derrickmen	9.00
Tile setters	10.00
Tile helpers	6.00
Auto truck drivers, less than 2500 lbs.	5.50
Auto truck drivers, 2500 to 4500 lbs.	6.00
Auto truck drivers, 4500 to 6500 lbs.	6.50
Auto truck drivers, 6500 lbs. and over	7.00
General teamsters, 1 horse	5.50
General teamsters, 2 horses	6.00
General teamsters, 4 horses	6.50
Plow teamsters, 4 horses	6.50
Scraper teamsters, 2 horses	6.00
Scraper teamsters, 4 horses	6.00

*On wood lath if piece rates are paid they shall be not less than such an amount as will guarantee, on an average day's production of 1600 lath, the day wage set forth.

Eight hours shall constitute a day's work for all Crafts except as otherwise noted.

Plasterer's hodcarriers, bricklayers' hodcarriers, roofers, laborers, and engineers, portable and hoisting, shall start 15 minutes before other workmen, both at morning and noon.

Five and one-half days, consisting of eight hours on Monday to Friday inclusive, and four hours on Saturday forenoon shall constitute a week's work.

Overtime shall be paid as follows: For the first four hours after the first eight hours, time and one-half. All time thereafter shall be paid double time. Saturday afternoon (except laborers), Sundays from 12 midnight Friday, and Holidays from 12 midnight of the preceding day shall be paid double time. On Saturday laborers, building, shall be paid straight time.

Where two shifts are worked in any twenty-four hours shift time shall be straight time. Where three shifts are worked, eight hours pay shall be paid for seven hours on the second and third shifts.

All work shall regularly be performed between the hours of 8 A. M. and 5 P. M., provided, that in emergencies or where premises cannot be vacated for work by mechanics until the close of business, men then reporting for work shall work at straight time; but any work performed after midnight shall be paid time and one-half except on Saturdays, Sundays, and holidays, when double time shall be paid.

Recognized holidays to be New Year's Day, Decoration Day, Fourth of July, Labor Day, Admission Day, Thanksgiving Day and Christmas Day.

Men ordered to report for work, for whom no employment is provided, shall be entitled to two hours pay.

CALIFORNIA'S LATEST ADOBE HOUSE

Some experts fail to take their own advice, but at the California State College of Agriculture, Davis, is an engineer who not only believed that mud buildings would make excellent farm houses, but built one in which to live and prove his theory.

The builder is J. D. Long, a member of the research staff of the agricultural engineering division of the college. He first became interested in adobe construction some seven or eight years ago when an investigation of the suitability of such material for California farm buildings was proposed.

Two years ago Mr. Long decided to try out in a personal way the merits of the material. The result is a snug, attractive home, where inside temperatures never reach the extremes of the exterior and high winds and outside noise are not noticeable, according to the builder.

The house is not of the sun-dried brick common to early California days, but is of rammed earth. Loose, moist soil was placed in shallow layers in forms and tamped directly in place in the walls. The walls are 12 inches thick, and have a small amount of straw in them for surfacing.

A heavy, reinforced concrete foundation supports the walls, and around the top of the walls lies a reinforced concrete bond stone which ties them together. Interior partition walls are of wood studs and lath, plastered. The adobe walls are surfaced with a lime plaster on the interior and have an exterior stucco coat of mud plaster. The plaster was applied with a steel trowel, and after it had dried was given one spray coat of diluted linseed oil.

Steel casement windows with inside screens were used. All but one door was made by hand. Heavy, hand-split shakes cover the roof. The house plan includes a moderate-sized living room, two bedrooms, bath, a concentrated kitchen and dining nook, rear service porch, dining porch opening on a rear garden, and an attached garage. The house has a large basement. It was from the basement excavation that the material was secured for making the walls.—*Christian Science Monitor.*

OUR SENTIMENTS, TOO

Indiana Society of Architects questions the value of advertising building materials when illustrated by ugly or improperly designed buildings, as being misleading in that it leaves a false impression on the minds of the public as to what constitutes design, and sometimes leaves a wrong idea of the materials, to their disadvantage.

Entrance Vestibule, Shell Oil Building, San Francisco
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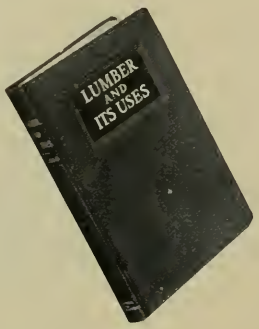

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ARCHITECT'S ADVICE NEEDED

Real estate men are recognizing that design is the primary factor in building, according to Frederick W. Garber of Cincinnati, a director of the American Institute of Architects, who predicts that the future of group housing will be a combined effort of the real estate man and the architect.

"Not only from the standpoint of economy but from the more important standpoint of design, real estate men are willing to concede that the plotting of subdivisions is becoming more and more the function of the architect," declares Mr. Garber.

"When I first began practice, it was rare for an owner to consult the architect before he acquired a site. Today, invariably the wise owner consults his architect before a purchase is made. The architect's judgment is sought.

"Design is, of course, the architect's most important function. All other functions are subservient to it. Good design was never so important as now. It has a real money value to the investor. Every branch of the building industry, and those outside, have come to a realization of this fact.

"In all branches of the industry, large and small, the architect is expected by the owner and contractor to furnish the leadership. This makes it necessary for the architect to be a business man capable of managing all the necessary diverse branches created by his design. He must also have a knowledge of how his client's work can be financed.

"Just so long as buildings must be designed, and drawings representing the design are made a matter of contract, the wise owner will use the architect to protect his interests. If a contractor assumes the architect's function, and some contractors do, the owner is at a great disadvantage.

"When a contract is taken at too low a figure, or changes are made after the contract is let, if the contractor is also the architect, the owner has an architect particularly partial to the contractor. In such a situation, the contractor with a conscience would never be credited with one. This may be ancient history, but it cannot be repeated too often. The architect, as we conceive his duties, cannot be a general contractor who guarantees cost.

"To meet competition, some architects have had to assume some of the functions of a general contractor. Many architects are operating successfully by dividing the building operation into its many parts and awarding contracts accordingly. They build up, successfully, an organization to coordinate all branches of the work. They claim

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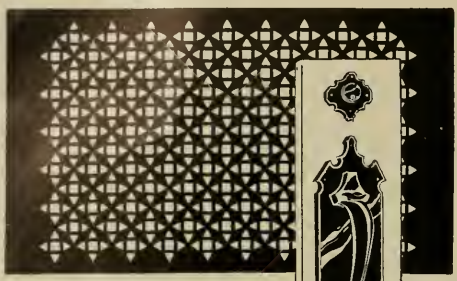

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a saving to the owner and no loss of time. This practice will become common if the contractors in some sections of the country do not mend their ways.

"In many small cities the general contractor is such only in name. Under these circumstances the added burden of protecting the owner under lien laws and distributing the funds so as to prevent the so-called general contractor from financing his contract through sub-contractors is a heroic task. Frankly, most architects would rather work through a general contractor. The solution of this problem lies in a clarification of both elements of their function.

"Architects, real estate men, financiers, and contractors are all vitally interested in the subject of legislation. It is to be regretted that the entire industry cannot agree upon legislation, and by combined effort force the enactment of proper laws. Too many laws, on the other hand, are being enacted to solve problems that demand cooperation and good business sense rather than legal measures.

"The growing scope of the architect's functions cannot be continued indefinitely. The value of his functions should and will increase in importance. The increase of functions, due, among other things, to competition with contractors, should be curtailed.

"The answer lies in all of the agencies of the industry uniting definitely to fix the duties of each individual agency. With a clear understanding and statement of these duties much can be accomplished. The solution will not be easy, but a unified building industry can make a place for all to function in the interest of the owner."

EXCAVATION FOR BUILDINGS

A law regulating excavation for buildings enacted at the last session of the California Legislature is now in effect. It is an amplification of Section 832 of the Civil Code and embodies principles which have been established by rulings of the state courts. Following is the text of the law, Chapter 776, Statutes of 1931:

332. Lateral Support, et Cetera.—Each coterminous owner is entitled to the lateral and subadjacent support which his land receives from the adjoining land, subject to the right of the owner of the adjoining land to make proper and usual excavations on the same for purposes of construction or improvement, under the following conditions:

1. Any owner of land or his lessee intending to make or to permit an excavation shall give reasonable notice to the owner or owners of adjoining lands and of buildings or other structures,

stating the depth to which such excavation is intended to be made, and when the excavating will begin.

2. In making any excavation, ordinary care and skill shall be used, and reasonable precautions taken to sustain the adjoining land as such, without regard to any building or other structure which may be thereon, and there shall be no liability for damage done to any such building or other structure by reason of the excavation, except as otherwise provided or allowed by law.

3. If at any time it appears that the excavation is to be of a greater depth than are the walls or foundations of any adjoining building or other structure, and is to be so close as to endanger the building or other structure in any way, then the owner of the building or other structure must be allowed at least thirty days, if he so desires, in which to take measures to protect the same from any damage, or in which to extend the foundations thereof, and he must be given for the same purposes reasonable license to enter on the land on which the excavation is to be or is being made.

4. If the excavation is intended to be or is deeper than the standard depth of foundations, which depth is defined to be a depth of twelve feet below the adjacent curb level, at the point where the joint property line intersects the curb and if on the land of the coterminous owner there is any building or other structure the wall or foundation of which goes to standard depth or deeper, then the owner of the land on which the excavation is being made shall, if given the necessary license to enter on the adjoining land, protect the said adjoining land and any such building or other structure thereon without cost to the owner thereof, from any damage by reason of the excavation, and shall be liable to the owner of such property for any such damage, excepting only for minor settlement cracks in buildings or other structures.—Statutes 1931, Chapter 776.

NEW FEE SCHEDULE

Washington State Chapter, A. I. A., has adopted a new price schedule: Commercial, educational and similar buildings, 6 to 7 per cent; churches, colleges, etc., 7 to 8 per cent; residences, alterations, store fronts, interiors, etc., 10 to 15 per cent. Two-thirds of the commission represents production; one-third, professional fee.

A CORRECTION

Howard G. Bissell, 421 East Miner Avenue, Stockton and not Frank Mayo, is associated with Bliss & Fairweather on the Stockton Postoffice Building. Mr. Mayo was formerly a partner of Mr. Bissell but he has not been a member of the firm for two years.

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HARDWOOD DEALERS FOR PHILIPPINE MAHOGANY

At the recent meeting of the Pacific Coast Hardwood Dealers' Association at Victoria, B. C., the following statement and resolutions regarding the marketing of Philippine mahogany were unanimously adopted:

"The Federal Trade Commission has decided that 'Philippine mahogany' is a proper name for Philippine hardwood possessing the characteristics of mahogany, and which has been for many years so known and sold.

"This is consistent with the established facts and the principles of fair dealing. Importers and dealers have both the opportunity and the obligation to apply this ruling so as to obtain great benefit to the public and to the woodmaking trades.

"Mahogany woods of different origin vary considerably in color, weight, hardness and figure. There are likewise wide variations in these physical qualities within woods of the same origin. Each variety has one or more specific uses for which it is best adapted. For some purposes mahogany wood of soft texture and little if any figure is required and the more expensive hard and figured wood is not desirable. In other cases wood of hard texture and pronounced figure is best. It is essential that those who supply mahogany woods to the wood-working trade recognize these facts and see to it that the lumber sold customers is not only true to name and grade, but is properly selected for those qualities calculated to fill the customer's requirements.

"Philippine mahogany comprises within its range of physical properties all of the qualities which make mahogany one of the finest cabinet woods. In Philippine mahogany there occur variations in texture, hardness, figure and color to the same degree as in other mahogany woods. There are uses for which Philippine mahogany is preferable to all other mahogany woods, and there are other uses where some other mahogany wood may be preferable to Philippine mahogany. Intelligent selection and grading will assure to the user the quality and satisfaction requisite to complete public service and sound business.

"Each type and kind of mahogany wood should be sold under its own name and for those uses for which each is best adapted. These are facts which the hardwood industry must recognize if it is to best serve itself by serving the public best. These are facts known generally to the trade but little understood by the public.

"Recognizing the obligation to deal fairly with the trade and the public; grateful for the opportunity to be helpful to both; and to the end that

both the trade and the public may be made appreciative of the qualities of each and all of the mahogany woods, the Pacific Coast Hardwood Dealers' Association hereby resolves, and its members individually agree:

"1. That each kind or species of mahogany wood, commonly recognized as such, shall be advertised, described and sold under names which clearly indicate their respective origin and distinguish them from each other.

"2. That mahogany wood of the Philippine Islands shall be advertised, described and sold under the name Philippine mahogany so as to clearly indicate its origin and distinguish it from other mahogany woods.

"3. That only those hardwoods of the Philippine Islands which possess all the characteristics of mahogany wood shall be advertised, described and sold as Philippine mahogany, and that the chief forester of the government of the Philippine Islands be invited to cooperate with the trade in the United States in making this resolution effective. Be it further resolved by this Association:

"4. That methods of grading and selection of stock be formulated to the end that each wood user may obtain the grade and quality of Philippine and other mahoganies which will produce the best results for each specific use.

"5. That the cooperation of local retail and wholesale lumber dealers and national and local associations of furniture manufacturers and dealers be obtained to make effective the principles set out in paragraphs 1 and 2 of these resolutions, to the end that both the trade and the public will be informed and made appreciative of the virtues of each kind of mahogany wood and the uses to which they are best adapted."

LECTURES IN ARCHITECTURE

George N. Sprague of Philadelphia has been appointed lecturer in architecture at the University of Southern California. Mr. Sprague is a graduate of the University of Pennsylvania, has studied abroad with Michel Jacobs in the Metropolitan School of Fine Arts, New York, and has practiced architecture in Philadelphia and Wilmington, Delaware.

With the opening of the fall term, the former School of Architecture of the University of Southern California becomes a College, with entrance direct from high school, providing for five years of continuous study.

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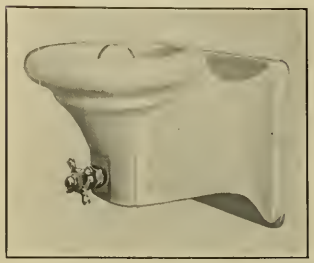

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CALIFORNIA WAGE LAWS

Important rulings on points raised in connection with the prevailing California wage law have been made by Attorney General U. S. Webb in response to inquiries made by State Architect George B. McDougall. These are in brief:

1. Wages of foreman must be included in prevailing scale of wages determined under the law.

2. Only wages of men actually employed on the structure itself by sub-contractors are affected by the law; it does not apply to those merely fabricating materials which might ultimately be used in the job.

3. A simple statement that time and a half or double time shall be paid for holidays and overtime is sufficient.

4. Nothing is said in the law about board and lodging of workmen but it is permissable to fix a reasonable maximum rate that can be charged by a contractor for the same.

Following is the text of the attorney general's ruling:

"Your first question is whether in listing prevailing wages for various crafts it will be necessary to include the wages of foreman in addition to the wages of journeymen. We answer the question in the affirmative.

"Your second question is whether the prevailing wage must be listed for mechanics working

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for subcontractors for branches of work handled by planing mills, iron works, sheet metal works, structural steel fabricating shops, etc., the product of whose work will eventually enter into the building, but who are not actually working at the site. As above noted, the act refers to subcontractors as well as to contractors.

"I am of the opinion that in order to be considered a subcontractor subject to the provisions of the act in the same way that the principal contractor is so subject, the subcontractor must equally be employing laborers, workmen or mechanics on the structure itself, and not merely fabricating materials which might ultimately be used in the building.

"Your third question is whether it will be necessary to list a complete schedule of prevailing wages for work on legal holidays and for overtime work, or will it be permissible to cover these items with the general statement that time and a half or double time shall be paid for legal holidays and overtime work.

"I am of the view that the alternative procedure which you suggest of stating that time and a half or double time shall be paid for legal holidays and overtime work, if in fact that is the prevailing wage, may be followed.

"Your fourth and last question is whether this statute permits the Director of Public Works to

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set a maximum amount which contractors may require their workmen to pay for board and lodging.

"There is nothing in the act directly referring to board and lodging of workmen.

"I understand you refer to public work that may be performed, for example, for the construction of public roads where road camps are maintained by the contractor, which camps furnish board and bed for the laborers. If in fact the contractor is required to pay whatever the prevailing wage may be and at the same time is permitted to exact from his employees for board and bed a sum of money that is unreasonable and in excess of the maximum amount that is generally charged throughout the state in similar camps, he would be permitted to defeat the very purpose of the act.

"Such a practice would amount to the employer demanding a rebate from his workmen, which would decrease their per diem pay to a sum below the prevailing wage that the act contemplates must be paid.

"I am of the view that in order to prevent such an avoidance of the terms of the act, it is permissible for your department to fix a reasonable maximum rate that can be charged by any such contractor for board and bed furnished to his workmen. You will of course exercise every discretion to fix this rate in accordance with the actual conditions that prevail in such camps throughout the state."

A HIGH-TEST INSULATING BOARD

A new "high test" insulating board and lath recently announced by the United States Gypsum Company has unusual structural strength and several other improvements which should materially increase the usefulness of this type of insulation to the architect.

The board is felted of hardwood fibers as a single unit by an advanced process. Because of the method of felting and the selected fibers, the company has been able to combine high insulation value with extraordinary transverse and nailing strength. Low water absorption is another feature claimed for this board, a sample immersed in water for twenty-four hours having absorbed but 14 per cent by volume. The board is suitable for sheathing under clapboards, brick, or stucco, as well as for wallboard and lath.

By a special technic the company has succeeded in giving the board a very hard face surface, which is difficult to scuff and resistive to air infiltration. The surface, which is a uniform light ivory color and semi-textured, is very economical of paint. When left undecorated, the board may be cleaned with wallpaper cleaner.

A unique feature of the insulating lath and tile board is a tongue and groove joint, which reduces the cracking of plaster to a minimum, prevents the lath being spread and forced out of alignment by pressure of the trowel, and provides a continuity of insulation.

The company also announces an innovation in the form of an 18x32 in. tongue-and-groove board with four beveled edges, which, when applied without joint treatment, produces a neat and restrained tile effect. Because of the insulation and sound absorption qualities of the material, it is suitable for use in such places as the class rooms, auditoriums and gymnasiums of schools. Another use for which the product is peculiarly well adapted is for application over old cracked ceilings in houses, store buildings, etc., where it serves the triple purpose of a permanent finish, heat insulation, and sound absorbent.

BOOK REVIEWS

By Edgar N Kierulff

THE CHRISTOPHER COLUMBUS MEMORIAL LIGHTHOUSE COMPETITION. Prepared by Albert Kelsey, F. A. I. A. and issued by the Pan-American Union.

This volume contains a considerable number of the designs submitted in the several competitions for the final selection of an architect to build a Monumental Lighthouse at San Domingo in the Dominican Republic. Each design shown is accompanied by a short criticism.

The drawings in most instances are very striking and show originality and considerable ingenuity. A few appear to be hardly practical for the purpose intended.

This competition has been entered by architects and engineers from nearly every country in the civilized world.

THE ORDERS OF ARCHITECTURE (Greek-Roman and Renaissance) by Arthur Stratton, F. R. I. B. A. Published by the J. B. Lippincott Co., Philadelphia, Pa. Price $8.00.

Well illustrated by eighty plates which demonstrate the application of the orders in architecture; also several small drawings. The book is well presented and should be invaluable to the younger members of the profession.

REAPPOINTMENTS MADE

Frederick H. Meyer of San Francisco and A. M. Edelman, Los Angeles, have been reappointed to the State Board of Architectural Examiners by Governor James Rolph.

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KINNEAR ROL-TOP DOOR

A new type of garage or service door has been recently placed on the market, called the Rol-Top, manufactured by the Kinnear Mfg. Co., of Columbus, Ohio.

The door, through its design and ease of operation, may be likened to the old fashioned roll top desk. The door is made of several hinged wood sections reinforced and strengthened by steel ribs or truss members that run across each. Ball bearing rollers are placed on the ends of these sections and they travel in a steel track bolted to the wall at the side of the opening and along the ceiling. When the door is opened it rolls up along the ceiling where it is out of the way, requiring no floor or wall space and where it cannot be battered around by the wind.

To make the door easy for even a woman or child to operate, a single helical spring at the top of the opening acts as a perfect counterbalance. The connection of this spring with the bottom of the door is made by steel rope or cable. Weather tightness of the door is accomplished by a throated guide bracket placed at the end of the vertical trucks which forces the door snug to the jamb when it is closed.

Saving space, and operating rapidly and easily, as well as effecting a new type of door neatness, this door is proving as popular for commercial buildings as for residential garages. Suited for motor operation the door may be operated by any number of remote operating stations. Where it is desired to have an extremely wide opening a moveable mullion or center post may be used in connection with two doors. If the doors are to be used in front of hydraulic lifts, they may be arranged to give the necessary clearance between the floor and the horizontal tracks.

PERSONALS

Gardner A. Dailey, architect, announces the removal of his offices to the Shreve Building, 210 Post Street, San Francisco.

James W. Plachek, architect, of Berkeley, and Mrs. Plachek have returned from a most enjoyable trip abroad. They were absent four months and visited many foreign countries of interest.

Edwin L. Snyder of Berkeley, accompanied by Mrs. Snyder, sailed last month for France, and after an extended stay there will visit Spain and Italy. They plan to be away six months.

Julian C. Mesic has recently returned from several months' stay in Europe, and has resumed his work as clay modeler of architectural studies.

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A TURNSTILE THEATER

The automatic theater has spread to Hollywood and, as usual, with skillful and artistic improvements. Retaining S. Charles Lee, architect, the Hughes-Franklin organization is erecting what is no doubt this year's most unique playhouse.

A vacant store 30 ft. by 100 ft. in a building of brick construction is utilized. The entire front is of structural glass of black and gray, with an illuminated glass ceiling and base.

Bulletin frames are of automatic changing type, carrying three different messages, assisted by talking copy that whispers out through a grille which is a part of the poster frame.

The front street exit doors are also utilized as poster frames, giving a maximum display, despite the small frontage. A portion of the frontage is used for a soft drink concession that opens into the foyer, thus serving both locations.

The box office has disappearing glass sides that are only used in inclement weather; at other times the girl is sitting at a glass counter in close contact to the patron. No tickets will be used. The cashier, on making change, operates a turnstile control. Change is dispensed by a remotely controlled change machine and appears on the counter automatically from the wall.

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The NOVEMBER ARCHITECT *and* ENGINEER will feature the E. J. Sweetland House in Piedmont—an outstanding achievement in domestic architecture, Frederick H. Reimers, architect.

In the same number—renderings by the late Harrison Clark.

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The foyer is lighted with modernistic strips in the ceiling and gives an impression of spaciousness, eliminating any store-effect or feeling. The commercial side is played up in this foyer by having two candy vending machines designed to fit the architecture of the foyer. A penny weighing machine is also included in the foyer equipment.

A novel drinking fountain is built in the foyer. It is operated by the new electric-eye principle: upon bending over to drink, the water flows automatically from the faucet.

A chromium-plated handrail marks the stairs to a lounge and rest rooms on the second floor. Here another surprise greets the visitor: an ultra modernistic, cleverly-decorated little room with candy, gum and cigarette dispensing machines, and also an automatic photographing machine.

The auditorium, with a capacity of 300, has only two aisles. It has a bowl-shaped floor, and the sight sound conditions have been expertly handled. The lighting is designed in the walls and ceilings, creating a very unusual effect of scale and proportions; together with a practical system of refrigerated air located in the basement under the sidewalk.

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Garages and skyscrapers, street and schoolhouses, any kind of structure, can be built today at costs from one-fourth to nearly one-half lower than they could a year ago, reports gathered from all sections of the country show.

Lower prices of building materials, along with the drop in wages, due to widespread unemployment, are the reasons for the prevailing bargain prices in construction. Building, of course, is not at a complete standstill but those who are erecting homes, expanding office or factory space, building streets and roads, and are having repair work done, are doing so at prices that will give their structures an inherent value they would not possess if built at peak prices.

Ample illustration of the bargain prices now obtainable are found in Augusta, Georgia, which, with its population of 60,000, may be termed an average American city. In Augusta a hotel is soon to be built and furnished for half a million dollars which will be 16 stories in height and will have 183 rooms. This hotel would have cost almost twice that amount in 1929. In that same city a 300-room hotel costing $1,250,000 was built when prices were high. The new hotel will have a per-room cost of approximately $2,730, while the hotel built in 1929 had a per-room cost of $4,170, a cost per room about 50 per cent in excess of the projected hotel.

Although the following statement is not to be taken as propaganda for more filling stations, the cost of constructing them illustrates the economies available. Filling stations that once cost $3,000 to erect are now being put up for $1,500.

Those who have been saving up their pennies to buy their own homes may live to a ripe old age before the present building prices

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will be obtainable again. Small homes that formerly cost Augusta citizens $3,000 are now being built for $1,800. Similarly homes that once cost $10,000 may now be built for $6,000.

Municipalities, forever faced with the need for expanded facilities, are also obtaining bargains for taxpayers. The city of Augusta, for instance, laid plans to construct a levee at a time when it was estimated that the cost would be $125,000. Recently bids were taken on the project and it was awarded to a contractor for $65,000.

In planning the North Augusta bridge, engineers calculated that the cost would be about $115,000. Because of the drop in construction prices it was determined to change the original specifications in order to obtain a much better bridge. The final contract was let for $80,000, but if the original specifications had been used the cost would have been no more than $65,000. A bargain price and a better bridge.

New York City is building an elevated highway along the west side of Manhattan Island. Recently bids were taken on the section between 22nd and 38th Streets. The contractor who was awarded the job submitted a bid that was nearly $395,000 below the city engineer's final estimate of $1,131,000. The highest bidder's figure was more than one hundred thousand dollars below the sum set by the city.

The Federal Government also has given advantage of low construction costs in its widespread improvement program. For instance, a contractor accepted the job of building a postoffice in Rock Hill, South Carolina, for $176,000—$99,000 less than the government appropriation. Sanderville, Georgia, is getting a $70,000 postoffice for $39,000, while Thomson, Georgia, is get-

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ting a $70,000 postoffice for $37,000.

In general the most needed projects in the country are those that will give more motoring space and safety to motorists. A number of communities are taking advantake of the present prices in building structures which eventually would have to be built. For instance, in Ohio a 5-mile section of the National Road is being paved to a width of 30 feet at a cost of $144,400, more than $52,200 less than the estimated cost.

Between Columbus and Sandusky a 20-foot pavement is being resurfaced with concrete for a length of eight and one-half miles at a saving of nearly $75,000.

Inasmuch as construction work requires more hand labor than almost any industry, communities all over the country are turning attention to the extension of public improvements so that the greatest number of men will be given work and so that funds for welfare purposes can be reduced. Kansas City and her home county, Jackson, recently adopted a number of bond issues which totalled $40,000,000. This money is to be devoted to all sorts of public structures from pavements to court houses. According to surveys between 75 and 80 per cent of all money devoted to construction eventually finds its way into the pockets of workmen. By that token laborers will receive some $30,000,000 in the next few years through the Kansas City program. During the campaign for the Kansas City bond issues a local newspaper learned that the total extra tax for one year levied on a carpenter would be about $10. But, the paper pointed out, that carpenter could expect many days more work during the year than he would otherwise receive and that it would take only one day's pay for his extra contribution in taxes.

Yet in the face of today's low costs, countless public improve-

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ment projects which would require many workmen are still in the paper stage. The President's Emergency Committee for Employment since last December has had reported to it over $6,000,000,000 worth of planned public work. During the first half of the year it is estimated that only $2,000,000,000 worth of these projects have reached the constructive stage, with $4,000,000,000 still on paper. In many cases the money has been made available for the planned projects but local conflicts and red-tape have held up the actual work. Men need work and taxpayers need bargain prices.

NOTES FROM THE NORTHWEST

(Pacific Builder and Engineer)

Miss Helen Graham, daughter of John Graham, Seattle architect, became the bride of Arthur Brock Park, at a garden wedding held at the summer home of the bride's parents at Port Madison, Washington. The wedding party took a short cruise in British Columbia waters aboard the Graham yacht Blue Peter. After an extended honeymoon journey in Europe, Mr. and Mrs. Park will make their home in the Orient.

* * *

R. Max Thorne, architect, of Renton, Washington, is keeping extremely busy since he took up the duties as city engineer.

* * *

Cougars, rattlesnakes and gold mine prospecting, made life interesting for Edwin J. Ivey, Seattle architect, during his wilderness retreat into the Siskiyou Mountains the latter part of August.

* * *

Hauser and Poyo is the name of a recently organized firm which is starting the general practice of architecture in the Lyon Building, Seattle. Special attention is paid to design in the Spanish mode. The senior member.

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Lawrence S. Hauser, is a graduate of the University of Washington.

* * *

Prize-winner Ralph Bishop, in the draftsmen sketch competition staged by the Tacoma Society of Architects, was the guest of honor at the weekly meeting of the society held Monday noon, August 31, at the Rhodes Tea Room. On August 24, A. Gordon Lumm discussed rock gardens before the society. Earl Dugan was master of ceremonies on both occasions.

* * *

E. T. Osborn, architect, and C. T. Adams, engineer, are now located in the Lumber Exchange Building, Seattle, where they are working on several projects likely to materialize in the near future.

* * *

For the coming academic year Professor Theodore J. Prichard, head of the Department of Art and Architecture at the University of Idaho, will study at Harvard University where he holds a scholarship. During his absence Paul R. Ihrig will fill the position.

* * *

Representative photographs, sketches, renderings and models from the various offices created a very active interest among visitors to Spokane's Golden Jubilee. The exhibit was held in a centrally located store-room, which was taxed to capacity during many hours of the three days.

* * *

Julius Zittel of Spokane, Glen Morgan and Lawrence Hauser of Seattle were named delegates to the Northwest Building Industry Conference at Spokane at the initial fall meeting of the Washingtone State Society of Architects September 10, at the Gowman Hotel, Seattle.

* * *

Edward F. Pinneh, member of McClelland, Pinneh and Jones, Seattle architectural firm, returned September 5 from a four months'

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tour of Europe, where he served as delegate to the International Rotary Convention in Vienna, Austria.

* * *

At a special noon meeting, September 22, at the College Club, Seattle, an illustrated lecture on Mexican architecture was given by Richard Pearce, A. I. A. The proposed drive against depression backed by the Tacoma Society of Architects was discussed.

* * *

The firm of Johnson and Wallwork, U. S. Bank building, Portland, have been retained on the $140,000 federal building at Marshfield, Oregon. Work on the plans will begin at once and actual construction will be under way within a few months.

DATA ON SIMPLIFIED PRACTICE

The American Institute of Architects has arranged with the division of simplified practice of the National Bureau of Standards to get pertinent material on simplified practice recommendations into the hands of each of its members, according to Edwin W. Ely, chief of that division.

The Institute has been active in supporting the simplification movement since the government first sponsored simplified practice in 1921. LeRoy E. Kern, technical secretary of the Institute, has pointed out that simplified practice is not standardization. Its purpose is to bring about greater simplification in industry by voluntarily limiting varieties of stock items to those for which there is constant demand.

The architect, although a strong individualist, realizes the benefits and savings inherent in simplification and at the same time knows that his individuality and originality of design are not impaired when simplified building materials are specified.

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Each member architect is being supplied with a complete list of simplified practice recommendations, and is being informed of the opportunities to obtain complimentary sheet form copies of any of the recommendations listed. This service, established for consumers or users of commodities simplified, has proven very popular and effective. Among the many associations representing users of simplified commodities that have already taken advantage of this service are the National Association of Purchasing Agents, the American Railway Association, the National Electric Light Association, the American Gas Association, the American Electric Railway Association and the American Water Works Association.

Mr. Ely stated that this same service will be extended to other associations upon request.

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THE ARCHITECT AND ENGINEER

Santa Barbara Competition Indefinitely Postponed - Page 62

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PROBABLY no architect in this country has his opinions broadcast more often than Frank Lloyd Wright,. When this learned gentleman has something to say he says it. He's as fearless in his denunciation of architectural offenses as he is brave in advocating revolutionary methods of design and construction.

His lectures are replete with thought-provoking statements as evidenced by the following:

"I think that for us to build any more ornamental buildings, as such, is just criminal waste, now. But, on the other hand, some of the so-called mechanistic buildings in the name of the straightline and the flat-plane have become fetish or a fad in the name of aesthetics. You get not much nearer to ultimate truth with these new buildings than with the old ornamental buildings. Because when you get below the surface, no matter how plain "modernistic" is—it is still merely ornamental. You are in the istic of the ism, and in just the same fix as the fellow who sticks to his ornament in the definite old fashioning of his building.

"I don't think it would be too much to say that in America today there is not a single public building and very few private buildings owned by the very rich that could be characterized as thought-built, genuine product of American thought or of American life. We have had with us dead things that we have sentimentally taken as live traditions. For one, Thomas Jefferson's architecture that he brought with him to the East. And for another, that which Father Junipero brought up from Mexico into California, Southwest.

"We have no free architecture, because such 'license' as we have practiced in architecture is not 'freedom': nevertheless we are privileged. But as privilege, we have pillaged the storehouse of the world in the name of Tradition and have proudly encumbered the land with the results.

"The ancient ideal, of course, was some block of building material, a great heavy block, the heavier the block the better. The more heavy and solid it looked to be the better it was. Buildings were built like ancient fortifications. They had to be. Life then was different. You had to fight for your life instead of for your living.

"Glass, s t e e l (steel like the spider spinning) is making the new buildings all the while lighter and stronger. And by means of glass we are making the environment and the building itself all grow together in one natural thing.

"I believe that architecture and architects may become true prophets of our future.

"I believe this would soon come to be if the architects themselves got solid grasp on these new concepts of architecture; because while the Spirit of architecture has not changed, its form must absolutely change, as we ourselves have had to change."

⁂ ⁂ ⁂

AND here we have Mr. Wright's advice to the young architect:

"Forget the architectures of the world except as something good in their way and in their time.

"Do none of you go into architecture to get a living unless you love architecture as a principle at work, for its own sake—prepared to be as true to it as to your mother, your comrade, or yourself.

"Beware of the architectural school except as the exponent of engineering.

"Go into the field where you can see the machines and methods at work that make the modern buildings, or stay in construction direct and simple until you can work naturally into building-design from the nature of construction.

"Immediately begin to form the habit of thinking 'why' concerning any effects that please or displease you.

"Take nothing for granted as beautiful or ugly, but take every building to pieces, and challenge every feature. Learn to distinguish the curious from the beautiful.

"Get the habit of analysis—analysis will in time enable synthesis to become your habit of mind.

"'Think in Simples' as my old master used to say—meaning to reduce the whole to its parts in simplest terms, getting back to first principles. Do this in order to proceed from generals to particulars and never confuse or confound them or yourself be confounded by them.

"Abandon as poison the American idea of the 'quick turnover. To get into practice 'half-baked' is to sell out your birthright as an architect for a mess of pottage, or to die pretending to be an architect.

"Take time to prepare. Ten years preparation for preliminaries to architectural practice is little enough for any architect who would rise 'above the belt' in true architectural appreciation or practice.

"Then go as far away as possible from home to build your first buildings. The physician can bury his mistakes—but the architect can only advise his client to plant vines.

"Regard it as just as desirable to build a chicken-house as to build a cathedral. The size of the project means little in art, beyond the money-matter. It is the quality of character that really counts. Character may be large in the little or little in the large.

"Enter no architectural competition under any circumstances except as a novice. No competition ever gave to the world anything worth having in architecture. The jury itself is a picked average. The first thing done by the jury is to go through all the designs and throw out the best and the worst ones so, as an average, it can average upon an average. The net result of any competition is an average by the average of averages.

"Beware of the shopper for plans. The man who will not grubstake you in prospecting for ideas in his behalf will prove a faithless client.

"It is undesirable to commercialize everything in life just because

[Please turn to Page 125]

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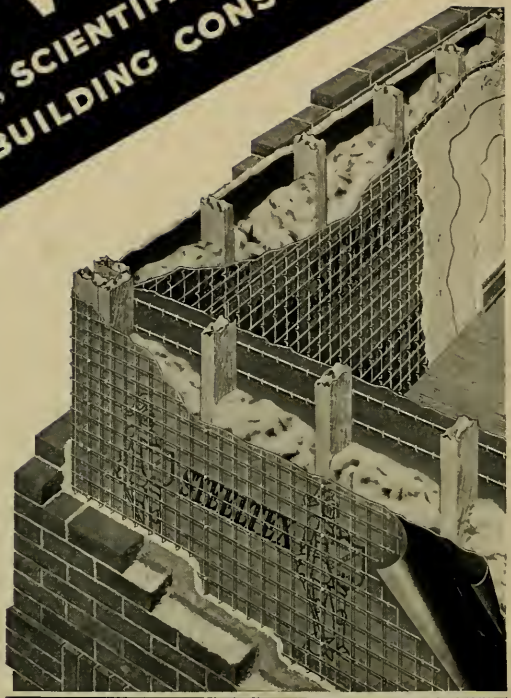

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Photo by Sturtevant

FRONT ENTRANCE, HOUSE OF E. J. SWEETLAND, PIEDMONT, CALIFORNIA
FREDERICK H. REIMERS, ARCHITECT

THE ARCHITECT AND ENGINEER

NOVEMBER 1931
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HOUSE OF ERNEST J. SWEETLAND, PIEDMONT, CALIFORNIA

by FREDERICK JENNINGS

THE lovely home of Ernest J. Sweetland in the Piedmont hills, California, is as charming in its setting as it is artistic in its graceful architectural lines. The house is situated on a gently rolling hillside, away from the street, the entrance approach consisting of an alternate series of steps and landings of irregular paving blocks of neutral purple and green slate. A grand old oak at the left of the wide slate walk, casts its morning shadows through the library window and against the warm coloring of the Bath sandstone wall as naturally as though its four hundred odd years of growth had been given for this particular purpose. Indeed, the blending of the early English architectural lines of the house into the rolling slopes of the hillside, supported by a row of irregular boxwoods at the base, gives one the feeling that the house, as well as the trees, may have grown out of the landscape.

Entering through the heavy oak door the formality of the French marble walls of the vestibule is quickly forgotten by the sight at the south end of the great hall of a galloping rocking-horse, a large family of dolls and a miscellaneous assortment of other toys—indisputable evidence of the presence of children of which there are seven in the Sweetland family.

The dark oak panelling of the hall is softened by the light from a large Gothic window over the stair landing. Down the hall to the left is the living room with its huge log fire burning cheerily behind screened gates of ornamental iron.

At the end of the living room, to the left as one enters, is a small conservatory, or flower room, with tiled floor and leaded glass Gothic windows from which may be seen a generous expanse of lawn, simple in its beauty, and unbroken by flower beds or shrubs.

Walking back through the hall, a door on the right leads to a tiled breakfast room, flooded with sunlight in the morning; while to the left is the octagonal dining room, which receives the afterglow from the west at dinner time. This room, like the others, is warm in feeling and simple in its elegance. It is unadorned except for the pale golden yellow window drapes and pendant lanterns, one in each of the eight corners.

The same large cathedral window which is seen at the stair landing from the main hall, throws a flood of light into the hallway on the second floor from which radiate the master bedroom, a cozy upstairs sitting room, guest room, etc.

STREET VIEW, HOUSE OF E. J. SWEETLAND, PIEDMONT ,CALIFORNIA
Frederick H. Reimers, Architect

BREAKFAST ROOM, HOUSE OF E. J. SWEETLAND
Frederick H. Reimers, Architect

Beautiful oak trees, colorful flower beds, selected shrubbery and a generous expanse of lawn space, add the final touch to this architectural ensemble.

One of the most interesting features of the upper floor is the boy's den which, so far as the interior is concerned, gives one the feeling of being in a log cabin in the high Sierras, rather than in a modern city home. The walls are of natural logs and are well decorated with trophies.

Throughout the house is an atmosphere of hominess and comfort, showing everywhere the influence of a loving mother and contented children. Art and utility have been combined to an unusual degree in planning the owner's workshop in the basement. "The room of rooms," he calls it, and sufficient machinery to build an airplane, not without justification. Equipped with this room affords its owner every opportu-

HOUSE OF E. J. SWEETLAND, PIEDMONT, CALIFORNIA
Frederick H. Reimers, Architect

Sharp gothic details, slate roof of soft, pleasing tone and exterior walls of light texture concrete, are contributing factors to this successful design.

nity to satisfy his hobbies—mechanical experimentation, chemical research and landscape painting. Examples of his craftsmanship are mute evidence of his versatility.

The house is sheltered from the trade winds by a sloping hill on the west and warmed by an unhampered southern exposure. Shrubs and flower beds thrive in simple but beautiful informality. As one steps out upon the slate tiled terrace which overlooks the garden, and beholds the soft green billows of oak trees that cover the hills beyond, the impression he gathers is that here, indeed, is the realization of the dreams and aspirations of its creators—owner, architect, builder, decorator and landscape engineer.

BOYS' DEN, HOUSE OF E. J. SWEETLAND
Frederick H. Reimers, Architect

GARDEN VIEW, HOUSE OF E. J. SWEETLAND, PIEDMONT, CALIFORNIA
Frederick H. Reimers, Architect

CONSERVATORY, HOUSE OF E. J. SWEETLAND, PIEDMONT, CALIFORNIA
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DETAIL, HOUSE OF E. J. SWEETLAND, PIEDMONT, CALIFORNIA
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OUTLINE SPECIFICATIONS

Residence of E. J. Sweetland.

Piedmont, California

Problem—

To build a beautiful home for a family of nine, plus servants. The house was planned in design and construction to last for future generations and was carefully placed on the building lot in relation to trees, view, exposure and landscape scheme. The main hall is cut into three component parts to eliminate, on account of size, a public building character. Placing of rooms in relation to each other as to circulation, view, sun and convenience was all carefully studied. Convenience to the garden and terraces from most rooms was considered too so as to make the garden a livable connection with the interior of the house. Landscape work includes tennis court and greenhouse.

Construction—

Reinforced concrete frame. Vapor heating system with oil burner. Metal lath throughout interior with hair and lime plaster. All electric and telephone wires in conduit. Complete laundry equipment with drying room. Plate glass windows and steel door and window sash.

Exterior—

English bathstone veneer, light cream color. Service wing of Roman brick and stone trim. Roof heavy purple slate. Gutters, leaders and ironwork leaded. Woodwork natural oak finish.

Interior—

Living room, breakfast room, library and halls, oak finish with compo on canvassed walls. Walnut finish in dining room. Oak floors throughout, except ballroom which is maple. Kitchen walls and ceiling tile; floor linoleum. Bathrooms have tile floor and wainscott with colored fixtures. Flower room, tile floor and wainscot. Breakfast room, floor tile.

FACADE, HOUSE OF E. J. SWEETLAND, PIEDMONT, CALIFORNIA
FREDERICK H. REIMERS, ARCHITECT

HOUSE OF E. J. SWEETLAND

Piedmont, California

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DETAIL, HOUSE OF E. J. SWEETLAND, PIEDMONT, CALIFORNIA
FREDERICK H. REIMERS, ARCHITECT

GREAT HALL, HOUSE OF E. J. SWEETLAND, PIEDMONT, CALIFORNIA
FREDERICK H. REIMERS, ARCHITECT

GRAND STAIRCASE, HOUSE OF E. J. SWEETLAND, PIEDMONT, CALIFORNIA
FREDERICK H. REIMERS, ARCHITECT

FOUNTAIN OF LINDARAJA, ALHAMBRA,
GRANADA, SPAIN

PATIOS AND FOUNTAINS OF OLD SPAIN

by CLARENCE CULLIMORE, A. I. A.

IN Sunny Spain where the intimate home patio is an integral part of the house plan, just as essential to the well-being of the Spaniard as our own living room is to us, there are to be found many unpretentious garden suggestions applicable to American home gardens of limited scope and resources.

How fortunate that Isabella and Ferdinand, in the year 1492, when they conquered the Kingdom of Granada, the only remaining stronghold of the Moors in Spain, were unable to expel the Moorish influence in architecture and the Moorish spirit that still haunts the gardens and courts and patios of Andalusia, a spirit that finds melodious expression in numerous fountains. The most characteristic note in Moorish landscaping, indeed, is the use of tiny but exquisite waterfalls and pools, streams and sprays of water.

Although the old well with ornamental iron well-head is not appropriate for our modern American requirements, there are in countless small domestic patios of Andalusia, also tiny gurgling fountains flush with the walk at path intersections. These are usually in a geometrical shape and outlined by gay colored tiles, with basins lined with transparent blue or vivid green.

The fountains are nearly always small. In a land where the dry season is so long and where water is precious, there are no great cascades as in the Garden d'Este at Tivoli or such tremendous thundering jets as at the Nymphenberg. No doubt the economy of nature is largely responsible for the gentle, restful use of water in the small gardens of southern Spain.

For the Moors, a garden was a secluded spot, even if it had to be made so by a high, encompassing stone wall. Here trees, and shrubs, and flowers had their place, but that was not enough. A small, quiet pool played into by fluty jets, a tiny, singing stream, or a harp-like spray of water made perpetual harmony in the midst of the perfumed peace of this little bit of paradise.

In America the walling-in of a garden is gaining in favor. This is especially noticeable in California where the Spanish-Moorish influence is strongest. Here we find many small homes taking advantage of their ground to the fullest for the benefit of their own family and their friends.

We must not judge Moorish gardens solely by those well-known examples on the main arteries of tourist travel, such as the Garden of the Lindaraja at Granada, surrounded by fragrant laurels and melancholy cypresses. The Court of the Lions in the Alhambra is another famous example, although in the days of Moorish occupation, it contained not a fountain of lions at all, the lions being brought there later by the Christian conquerors who had no religious scruples against using such figures in their architectural decorations. The long, narrow pool in the Generalife garden at Granada, with its slender intermingling jets, giving out a sense of light and purity, is always inspiring and has a keynote of perpetual peace. Even the Generalife, although a delicious Moorish garden, perhaps ten centuries old, is not entirely typical.

One must visit the smaller parks and private patios in order to realize how characteristic is the use of a small amount of running water in gardens. Frequently the parks and public gardens with their palms and roses, oleanders and myrtle hedges carry out the quiet Moorish influence to some degree with small fountains surrounded by *azulejos*. In one such park there

PATIO, DE LA ACEQUIA, GRANADA

Note Pebble Pavement

A MOORISH GARDEN AND FOUNTAIN

is a lily pond and at one end stone benches and bookcases where one may enjoy a book in the open air by the waters' edge.

This priceless heritage from old Moorish-Spain is one of the most charming attributes of Andalusian patios. Here there is scarcely a home garden without a trickle of water somewhere in it. Often there is a wall-fountain, perhaps in a setting of gay-tiled Moorish geometrical pattern, often a tiny pool fed by a ribbon jet, or a trickle over mossy rocks in a fern-filled niche, makes music in the secluded Spanish patio of today.

Even the public fountains in the plazas, where the housewives and children of the village fill their jugs sometimes are architectural gems of historical value.

Another simple and very effective detail of Spanish gardens is the texture of the garden walk, often brick or tile or flagstones, but sometimes built up of myriads of varicolored river pebbles laid on a cement base yet projecting above it and giving a rough mosaic effect. These walks are often laid in running motifs or floral design which gives a charming colorful texture to a simple garden path.

Another most pleasing effect is obtained by the use of earthern jars and curved tapering flower pots containing bright flowers and shrubs placed on wall copings, or at the walk's edge or about a tiny pool or lily pond, wherever an excuse for them may be found. It is quite common also to find such flower pots attached to the blank white sides of buildings by means of scrolls and iron hoops or gorgeously arrayed in a wrought iron window grille.

In the western and southern part of our own land, coming under the influence of early colonization from Spain, there has developed a type of American architecture that finds its inspiration in Andalusia. Especially in California, where the climate is so similar to that of the Mediterranean, there are developing many small home gardens that bid fare to perpetuate in America the intrigueing charm of the ancient Moors in the use of melodious fountains.

GARDEN D' ESTE AT TIVOLI, ITALY

HOUSE OF MR. AND MRS. FIRMAN EYRAUD, BAKERSFIELD, CALIFORNIA
Symmes & Cullimore, Architects

HOUSE OF DR. AND MRS. C. E. PRYOR, BAKERSFIELD, CALIFORNIA
Clarence Cullimore, Architect

"CONSULT AN ARCHITECT"

by WELLS BENNETT

OUR September meeting of the Architects' Association was a lively one, with some vigorous and even personal remarks for and against professional advertising. But the will to survive won, and we voted by a comfortable majority to go in for publicity in a big way. In the resolutions as finally passed, the steering committee felt that they had unified the antipodal creeds of the go-getters and the die-hard conservatives in a very tactful way. Printed matter was to be thoroughly dignified; practically confined to our names, alphabetically listed, and the phrase "Consult an Architect." This was to be our slogan, "Consult an Architect," and it was to be quietly, yet frankly, stated in print everywhere.

The other phase of the campaign was to be a series of weekly broadcasts through our local station WARCH. These talks were to be reserved and on a high professional plane, too, but there would be the personal touch, or the personal sound, if you like; the inspiring accents of a veritable architect's voice, giving an authentic—and of course convincing—picture of our professional services to the individual, the community, and mankind. The plan of attack being thus outlined, our meeting broke up on a note of geniality and general optimism. The necessary money, it had been decided, was to be raised by assessment upon members in proportion to prospects landed.

Since I have a good microphone manner and a rather unusual carrying voice, I was selected to give the first of the weekly broadcasts. As it happened, I was going over to South Bend, but that made no difference since we had arranged with two other architects' groups to use electrical transcriptions. So I made the record and, the next Thursday night in the hotel in South Bend, heard my own voice. It began something like this:

"Dear friends of the invisible radio audience, and prospective clients everywhere. I am about to bring you the message of that most tangible, and at the same time the most spiritual of the arts, Architecture. Architecture is the mother art. Throughout the ages man has not only been housed, but his every civilized need has been more than met, his highest motives and aspirations more than expressed in the living rhythms of architecture. As Madame de Stael has said: 'Architecture is frozen music' . . . "

Pretty strong stuff, you see. Well, after this perhaps formidable opening, I gradually eased into a carefully phrased discussion of the architect's high professional integrity, his altruistic service to his client and thus to the world at large. I was at some pains to describe in glowing colors the pleasures of being a client, that sense of well-being that lingers even after the first passion of building ardor has passed. On the side I shrewdly handed a few small verbal bouquets to the realtors, contractors, and craftsmen, "those who make our dreams come true." Really it sounded awfully well and I know it must have met with favorable reception for in their programme the next Saturday night the Nutt brothers, Ches and Wal, voluntarily gave this recognition to our profession:

Ches: "Wal, you're a builder. Did you realize that architecture is the mother art?"

Wal: "Sure! Come to mamma, come to mamma, do," and they went into their song. A significant straw in the wind of public opinion, I thought.

All this happened last week. Back in town this morning I went down to the office more from force of habit than because I had anything to do there. With me as with my fellow architects things have been terribly slow; quiet, as we say in the Middle West. Arrived at the building I let myself into my private office as usual, anticipating a peaceful morning with the last week's mail. No sooner had I disposed of my hat and stick, however, than Miss Blarger, my secretary, stenographer, and specification writer, popped in, greeted me, and announced that several people were waiting to see me.

"Salesmen?" You see how low I was, but she quietly opined that they were clients, and said they all asked for me eagerly. Could it be that the publicity campaign was bearing early fruit? My professional temperature was rising rapidly. One party, it seemed, had been waiting at the door when Miss Blarger opened the office. I indicated that I would see them right away.

She smiled, and in a moment ushered in three boys about sixteen, clean, more or less freckled, their hair slicked down, possessed of numerous and large hands and feet. They were deadly serious and their spokesman began:

"Coming down on the street car we were talking about our scheme, and we saw your placard in the car ads, 'Consult an Architect,' so we came up. You know our baseball team, the Woodchucks—they won the city pennant last year. Well, Mr. Lafe Bledsoe, the butcher, owns some vacant lots he's going to let us use, and we thought maybe you architects would put up a building for us. Just a locker room and shelter, and put up so we could move it if the lots are sold. I guess the building is easy—we know what we want—but you see you could finance it and we'd let you and Bledsoe paint your ads on the wall toward the diamond. It would be swell publicity for you." I said a few words about the dignity of the profession, during which time their wandering eyes were taking in the office. Then, as they seemed to consider my remarks in the nature of an encouraging preamble, I added that I would take their proposition under advisement. They said that they would be back tomorrow or next day, after they had canvassed some other possibilities.

This contact had been a trifle disappointing and I rang for the next visitor. I was seated at my desk but rose, I fear a bit galvanically, as there was ushered in a rather young, distinctly comely, and beautifully dressed woman. Her voice was a delight; she was the completely charming, not too cultivated, feminine client.

"Mr. Kent-Parsley?" I bowed, and at my gesture she took a chair. One's mind runs rapidly at such times. I foresaw a good commission and many long, pleasant interviews. "I am Mrs. Brand Tredgold" . . . I had heard of the family. There was a fluttering moment of hesitation. I could only look receptive and await her mood.

"You will wonder why I have come, but I heard you talk so easily and persuasively on the radio the other night, and when this morning I caught your name in the *Sun's* full-page ad it came to me that you'd be just the one." She laughed, a low musical laugh, a bit confidential, a bit embarrassed. I smiled encouragingly, and she went on:

"You see, our little club . . ."—At last! A new Women's Downtown Club, some job!—"We're debating . . . we're debating the question 'The city of West Harbor is wet.' I'm captain of the negative team and . . . Mr. Tredgold won't help me, and I've just got to have some arguments. I felt so nervous and blue until this morning I saw that 'Consult an Architect,' and I came right here." She beamed at me and took out her pad and gold pencil.

"You've had lots of experience with buildings and you must know if people are or are not building blind pigs. I hope you'll say they're not." For a moment I pondered my Clinching the Client talk then, charmed, I suppose, by her naivete, I discarded it in favor of some informal reminiscences to which she listened avidly, and upon which she made many notes. When she left I

jotted on my desk pad, "Mrs. Brand Tredgold. Consultation, one hour." In case she should come back.

The next client entering completely filled the door, at least in width. Short neck, jet-black hair and mustache, small, snapping black eyes—he was, I thought, of South European origin. He looked almost too capable physically but his expression was the friendliest. Perhaps too ingenuous, but these people sometimes have capital and are good venturers on speculative building. In his big, short-fingered hand he held a picture post card. Ah! a client who "wants something about like this." His voice was soft, his tone appealing:

"I'm Jack Morello. I come for my brother Pietro. We got plenty money. You help him out?"

"Yes, indeed, I'm sure I can," I replied. He gave me the post card and I examined it closely. It was a fine cut of the new State Penitentiary here at West Harbor. The name was in one corner and in the other our slogan, "Consult an Architect." One tiny dot of a window was marked with a cross in red ink. A thick stubby finger pointed to the cross:

"That's Pietro's window. You help him out, yes?" The great hand rested easily on my arm. My visitor's face was all smiles; he had beautiful white teeth. "You start today?" It was perhaps wrong to give temporary comfort to this child of nature, but he was so trusting. I promised to have some preliminary sketches ready for him tomorrow at ten. When he had gone I felt tired and, besides, it was past noon. Miss Blarger said there were several others waiting, more kept coming in, but I bethought myself of my pocket notebook, consulted it and waved her out:

"Tell the others I can't see them. I'm leaving now to keep an important appointment."

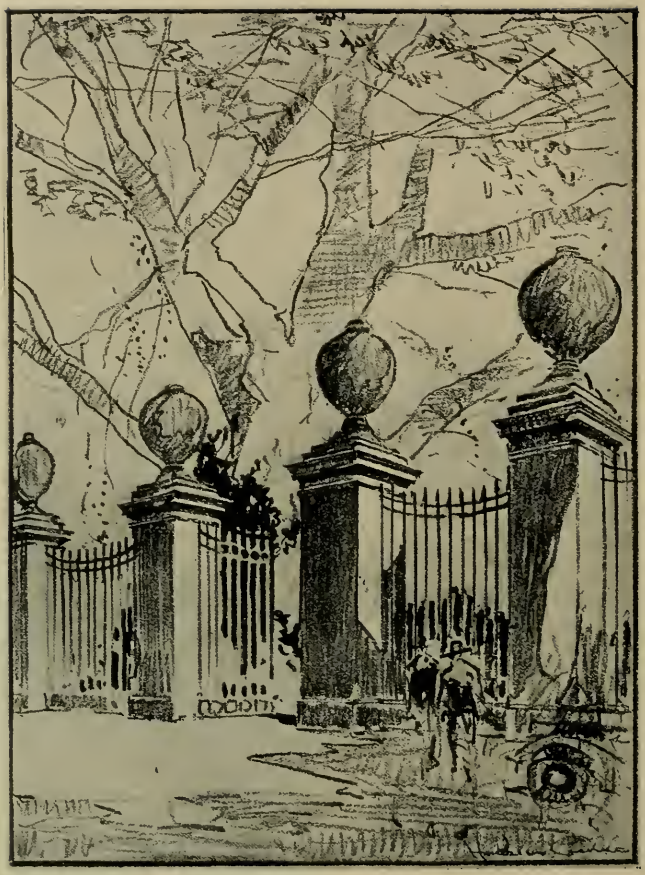
Before she could deliver my ultimatum I had slipped out my own door, caught the elevator and departed for the University Club. There was a good chance that I might meet Percy Cobden or Frank Hunt and persuade them to have lunch with me. They practically have the say on the new Coolidge School. Sure enough I found Cobden, and with others, none of whom, fortunately, were architects, we had a pleasant time. That's the only way to get jobs. Well, it's three o'clock now, and I think I'll go home . . . Jack Morello will be around tomorrow morning at ten. Come to think of it, I believe it would pay me to go back to South Bend for the rest of the week and nurse along that prospect over there. By that time the worst of this professional publicity will probably be over.—*Pencil Points.*

HARRISON CLARKE'S WORK

A Portfolio of Sketches, Water Colors, Etchings and Pencil Renderings Reproduced by Courtesy of Pencil Points

AS time passes the real greatness of Harrison Clarke as an artist and architect is realized. His loss to the profession is a severe one. His talent has been properly compared to that of Piranesi. His untimely death in Los Angeles came at a period of life when the future seemed to hold for him untold glory. But he died happily and seemingly satisfied with his creed—to get all there was out of life while it lasted. Harrison Clarke's work speaks for itself and needs no commentaries. As he was an inspiration to his associates in life, so will his achievements continue to be an inspiration to those who survive him.

SKETCH ON TINTED BOARD BY HARRISON CLARKE



TRIAL GARDEN FOR CITRUS FRUITS AND GARDEN GATEWAY

Sketched by Harrison Clarke for Florence Yoch and Lucille Council, Landscape Architects. This drawing was executed on white illustrators' board with a green wash, litho crayon and red and yellow crayon with touches of Chinese white. Size 10″x15″.

ROBERT SCOLES COTTAGES, MYRON HUNT AND H. C. CHAMBERS, ARCHITECTS
Drawing in Opaque Color by Harrison Clarke

RESIDENCE FOR DR. ROBERTS, PASADENA, MYRON HUNT, ARCHITECT
Rendering in Opaque Color by Harrison Clarke

BOTANIC GARDEN FOR B. F. JOHNSTON

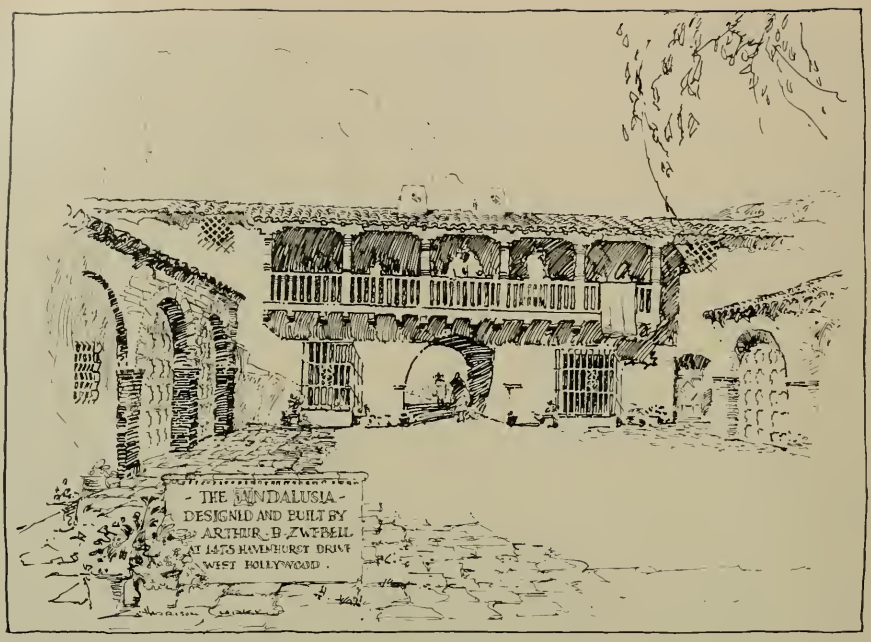
Sketched by Harrison Clarke for Florence Yoch and Lucille Council, Landscape Architects. Done with a yellowish green wash, green and yellow crayon or pastel smeared, and lithographic crayon. Size, 10"x15".

HOTEL AT BISHOP, CALIFORNIA. MYRON HUNT. ARCHITECT
Pencil Rendering by Harrison Clarke

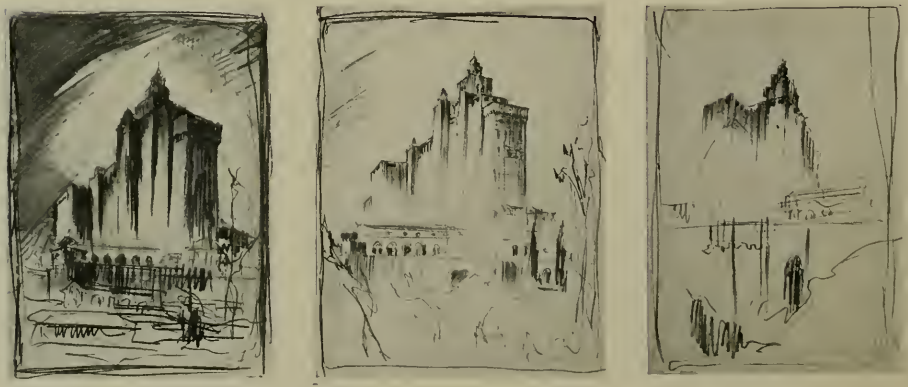
WATERFRONT ATMOSPHERE
Two Etchings by Harrison Clarke

PATIO AND SUN ROOM, GORDON B. KAUFMANN, ARCHITECT
OPAQUE WATER COLOR BY HARRISON CLARKE

AN ENTRANCE COURT, GORDON B. KAUFMANN, ARCHITECT
OPAQUE WATER COLOR BY HARRISON CLARKE



DRAWING IN PEN AND INK BY HARRISON CLARKE



PRELIMINARY SKETCHES FOR HOLLYWOOD RITZ HOTEL
Drawn by Harrison Clarke

THE HOLLYWOOD RITZ HOTEL, GORDON B. KAUFMANN, ARCHITECT
FROM A DRAWING IN OPAQUE COLOR BY HARRISON CLARKE

TEMPLE B'NAI B'RITH, LOS ANGELES—ETCHING BY HARRISON CLARKE
EDELMAN & BARNETT, ARCHITECTS
ALLISON & ALLISON, CONSULTING ARCHITECTS

STOCK EXCHANGE, LOS ANGELES—ETCHING BY HARRISON CLARKE
SAMUEL E. LUNDEN, ARCHITECT
JOHN PARKINSON AND DONALD B. PARKINSON, CONSULTING ARCHITECTS

RANCH HOUSE FOR J. S. ROBERTSON, CARL JULES WEYL, ARCHITECT
DRAWING IN OPAQUE COLOR BY HARRISON CLARKE

HOTEL AND VILLAS, DANA POINT, GORDON B. KAUFMANN, ARCHITECT
RENDERING IN OPAQUE COLOR BY HARRISON CLARKE

PEN AND INK, PENCIL AND WASH SKETCH BY HARRISON CLARKE

DRAWN IN PEN AND INK BY HARRISON CLARKE

THE LOS ANGELES TIMES BUILDING, GORDON B. KAUFMANN, ARCHITECT
FROM A DRAWING IN OPAQUE COLOR BY HARRISON CLARKE

GETTING UNCLE SAM OUT OF THE ARCHITECTURAL GAME

NATIONWIDE recognition has been given the Federal Building Conference held in Spokane, Washington, September 12, under the auspices of the Construction and Industry committee of the Spokane Chamber of Commerce. The purpose of the conference was to create a sentiment in favor of decentralizing the work of the Supervising Architect's office at Washington, D. C., to the end that Pacific Coast architects and Pacific Coast contractors may be employed and Pacific Coast building materials may be used in Federal projects in Western states.

The following paragraphs are taken from the official stenographic report of the meeting, reflecting sentiments which are shared by the profession and building industry from Coast to Coast.

Eric N. Johnson, President of the Spokane Chamber of Commerce:

"You realize, of course, that the salaries received by most of the government employees are not sufficiently large to attract the highest type of designing ability, and in most instances the buildings which are constructed do not have that flexibility which embody the latest designs and latest types of improvement in building construction.

"In addition to that, local contractors are in many instances practically deprived of an opportunity to successfully bid on Federal buildings, and to use Western products, due to the fact that when eastern products are specified they don't have the low-down quotation on prices of eastern goods. Our western producers are unable to secure this low-down quotation, on the prices of eastern material, and as a result, on Federal buildings which have been let in the last 18 months, our local contractors have not been very successful in bidding. In addition to that, our western materials are not specified very frequently, and we feel that in most instances these western materials are equal or superior to the products which are specified; that eastern products cost the government more because of transportation costs, and that because of many other factors which enter into the construction of a Federal building, this is a problem which is of primary interest and importance, to the associated industries, consisting of the designers, builders, suppliers of material and industries of the Northwest, and in the last analysis to all the people because it involves the very roots of the American democratic form of self-government."

R. E. Borhek, President of the Washington State Chapter, A. I. A.—:

"While my introduction identifies me as officially representing the Washington State Chapter of the American Institute of Architects, I hope that I am not over presumptious if I take under my unofficial wing a far larger group than this. First allow me to express my appreciation and hearty commendation of the Spokane Society of Architects for the important contribution which they have made toward the holding of this meeting. The city of Spokane is indeed fortunate in having such a group of men as these. So that I would like to feel that I speak also for the Spokane Society of Architects.

"It is customary in these days, whether consciously or unconsciously to segregate ourselves into groups according to our several pursuits and view our problems in that light, forgetful of that one fraternity to which we all belong—the public. So may I speak to you also as the representative of John Doe, plain American citizen, for he has just as much concern in this affair as the rest of us. Let me emphasize at the very beginning, as I have in my every utterance on the subject, that this is not the private affair of the architectural profession, nor is its sole or even major interest that of the architectural profession. Its principal objective is in the interest of the entire construction industry in all its ramifications and through that industry the ultimate benefactor is John Doe, plain American citizen. It is only because the principal objectives can best be accomplished through the employment of local architects on local Federal building construction that the profession occupies so prominent a place on the program.

"Now first, I would like to briefly review some of the events which have led up to this meeting. To the best of my knowledge, this national movement, at least this particular effort, to 'get the Government out of competitive business, started right here in the State of Washington. There have perhaps been other endeavors though I believe they have been generally confined to efforts within individual states to secure the planning of Federal buildings for the architects of these states, and of course many individual efforts to incorporate the use of specific local materials in such buildings. But I believe this to be the first movement directed toward these objectives on a nation-wide scale, and the first to gain national scope. And this movement had its beginning not in the interest of the architects, but in the interest of a building product of the State of Washingon. It was through the vehement exhortation before civic clubs by one of our representatives in Congress, to build up our communities by supporting and patronizing our local merchants and manufacturers that it seemed opportune to champion the cause of one of our local industries in their endeavor to have their product used on Federal construction in this state. You gentlemen who represent us in Washington, probably recollect the deluge of resolutions and communications on the subject. Almost simultaneous with this endeavor the architects made a similar and may I say successful, effort in their own interest relative to the Marine Hospital, then contemplated in Seattle.

"But these efforts, like many others throughout the country over a long period of time, were confined only to the work contemplated within an individual state. But it was the experience gained through these two instances that led us to a realization that enduring benefits could be attained only by a prescribed regulation through the specific mandate of the Congress: that to attain this end the demand for these benefits must of necessity emanate from every state in the Union. Spurred by the increasing economic necessity for national relief, and the realization that we could not hope did we desire to attain these benefits for our own state alone, the Washington State Chapter of the American Institute of Architects circularized the 66 Chapters of the Institute setting forth the benefits which might be expected to accrue to labor and industry of the entire country through the abolishment of the practice of architecture by the United States Government.

"The replies were almost unanimous in endorsement of our suggestion. None opposed it. One or two from the eastern seaboard were non-committal. A few did not seem to grasp the broad view of a national policy being particularly concerned with efforts confined to their own states. A number cited instances of their success in obtaining commissions for Federal work within their states. But our suggestion met with very encouraging approval as a result of which we again circularized all the Chapters. We met again with encouragement, especially from several of the Chapters which had not responded to our first communication.

"As a result of the interest aroused throughout the Institute this question became the principal order of business at the

63rd annual convention of the American Institute of Architects held in San Antonio, Texas, last May, at which time a resolution was passed directing the executive board to transmit the views of the Institute on this matter, as stated in the board report, to the proper legislative and executive branches of the Government and to take such other measures, in cooperation with the Chapters and related organizations as may be necessary to accomplish the aims expressed therein.

"The resolution covers the following points:

First—The necessity in the present emergency of expediting the Public Building Program by alloting as many projects as possible to private architects, resident in the localities where public buildings were to be built.

Second—Value to the Government and to public generally of securing the cooperation of the best professional ability in the country, in order that our public buildings might more truly reflect the highest architectural achievements of which the nation is capable.

Third—That the spectacle of the Government in business on so large a scale in operating a creative architectural bureau like that of the Supervising Architect of the Treasury, is inconsistent with our present American policy of encouraging private business and professional initiative. In other words, we object to the Federal Government practicing architecture.

"The following material is contained in a letter dated May 12, 1931, from Mr. L. LaBeaume, of the American Institute of Architects:

"An appointment with the President was made for Thursday last, May 7. On the day preceding the conference with the President, Mr. Frank C. Baldwin and myself, representing the Institute, met with Mr. L. W. Wallace, Executive Secretary of the American Engineering Council, Mr. A. P. Greensfelder, President of the Associated General Contractors of America and Mr. H. H. Sherman, President of the Producers Council, and collaborated in the preparation of a memorandum covering the points above outlined, which we proposed to leave with the President at the time of our interview. The memorandum received the unqualified approval of all of the above representatives of the construction industry, and was signed by them. Only courtesy to the President prevents my enclosing a copy of this memorandum now, but I can assure you that it covered thoroughly, and with considerable force, all of the points which you might desire to make.

"We met the President on Thursday morning and had a full and frank discussion of the whole problem with him. In addressing him, I not only spoke for the American Institute of Architects but for four influential State societies, viz., California, Illinois, Michigan and Ohio, which had endorsed our program. Naturally, the President did not commit the Administration to our point of view at this conference. He admitted that there had been discouraging delays, but asserted that the program was now well under way and that a very large number of architects had been drawn into the Government's service. He mentioned the number at one hundred and eighty, which we frankly told him was surprising to us. He urged us to see Major Heath and to get from him all the facts covering the situation.

"Leaving the President, we sought an appointment with Secretary Heath. Unfortunately he was obliged to leave Washington at one o'clock for Cleveland, but left instructions with Judge Wetmore, Acting Supervising Architect, and his assistants to place all of the data of the Department at our disposal. At three o'clock we met Judge Wetmore and Mr. Martin of the Supervising Architect's office at the Treasury Department. These gentlemen reviewed the whole situation and presented us with charts and schedule showing the status of the whole program to date. They asserted that sixty-three private architects had been appointed, and that some of these had been coupled with associates of greater experience, bringing the total number somewhere near one hundred. They further stated that it was the intention of the office to avail itself of the services of at least fifty more architects in different parts of the country, twenty-five of whom will probably be appointed within the next two months. They asserted that they wanted to utilize the services of outside architects, both for the reason of speed, and for the effect which this service would have on our Federal architecture. They seemed to be in entire accord with our views, though of course they did not discuss that phase of the situation relative to the Government in business."

"I will also read from another letter from Mr. LaBeaume:

"Your committee is now in receipt of a communication dated May 28th from Major Ferry K. Heath, Assistant Secretary of the Treasury, criticising the memorandum which we left with the President, in some particulars; but assuring us of his intention to utilize the services of private architects in so far as he may think proper."

"Bland statements of how many private architects are being employed or how much greater the money value of the work they are engaged in as compared to the work the Department is doing, isn't the crux of the matter.

"It is decidedly questionable whether the Department organized on a creative basis, is prepared to function efficiently in a supervising capacity. Rumors are already current that architects are finding it difficult to obtain essential information or approval of plans as quickly as is necessary to permit them to complete their work with dispatch. This is to be expected from a bureaucratic system, and especially one that has been organized and accustomed to create work rather than to transmit information. As the number of private architects selected to design government buildings is increased, it is probable that it will become increasingly difficult for them to obtain prompt decisions through the office of the Supervising Architect. Later on the result may be that these architects will be accused of being slow and of delaying the progress of the work. Reflection will thus be cast upon outside architects through no fault of their own. This condition should be foreseen and measures taken to correct the situation."

Addison T. Smith, Representative from Idaho:

"As it has been stated there is no Supervising Architect in Washington, D. C. There is an Acting Supervising Architect, who it would appear it not an architect, but a judge. It would seem to me that it might be well to select a man of modern architectural ideas to fill the office of the Supervising Architect. My own experience with this office has been similar to that which others who have been interested in seeking considerations for their own states in connection with Federal building projects have undergone. In connection with the Federal building at Pocatello, I was told by Judge Wetmore a private architect could not be appointed. I was told the same thing by Assistant Secretary Heath. Upon taking the matter up with Secretary Mellon I was told that he, Mr. Mellon, could not give attention to some 2,000 projects. I do not wish to quote from the statement of a cabinet officer, but I may say that as a result of my interview with the Secretary of the Treasury, I was left very definitely with the impression that Mr. Mellon's feeling was that the work on those buildings should be distributed among private architects. In this particular case, after a wait of ten days, I was told that a local architect had been retained to design the Pocatello structure. I could point out a number of instances where proper consideration seems not to have been given to local firms. For example, the contract for certain repairs at the Twin Falls post office costing in the neighborhood of $2400, was let to an Indiana firm."

Samuel B. Hill, Representative 5th District, Washington:

"I have been greatly interested in the questions which you have discussed and I may say that I have kept the trail hot to Washington, D. C., in an effort to secure consideration for western architects, the designation of local contractors and the employment of western materials as to Federal building projects planned for this region. There is no question in my mind that your complaints are justly founded. We have been obliged to fight for all the consideration we have had for local men and materials in connection with buildings planned for this section. I have on more than one occasion taken the matter up with the Supervising Architect's office and urged upon the officials there the advantages both to the Government and the state in recognizing western materials and the employment of local architects to design and supervise the construction of public buildings in the State of Washington. In this matter I have had the support of other members of our state delegation, but

we do not appear to have made very much of an impression upon this bureau of the Federal Government. The replies to communications addressed to this office have the appearance of a form letter and though we have made many representations as to the feeling of our constituents, the practices and policies of the Supervising Architect's office appear to remain virtually unchanged. I am heartily in sympathy with the general principles of this movement. I agree that the best architectural talent could not afford to take positions on the Government's staff of architects. There is abundant evidence to show that the best architectural skill is to be found in the ranks of the private profession and I, for one, can see no reason why modern ideas should not be brought into government buildings or why the old pyramid style should appear to be so closely adhered to. Federal buildings should, in my opinion, express the latest ideas in construction, typify the character and atmosphere of the community, and in the general plan, outlets should be provided for the development of individual initiative, enterprise and creative ability. I was struck by the principles upon which Mr. Borhek's main tenets were predicated—namely: that in the last analysis the interests of John Doe are primarily concerned. It may be said that these principles should be maintained in respect to the entire building profession, from the designer to the man who actually applies the material and throughout the entire organization, including the building material fabricators and distributing agencies. From a local standpoint I may say I am fed up on the matter of Indiana lime stone. The State of Washington is entitled to consideration for its own products and industries. I do not know of a single instance in connection with Federal projects where we have not had to make a fight for local materials. Certainly the matter must be approached from a national standpoint and the question at issue is just as important to the man from Florida, the man from Maine or the man from the middle west as it is to our own citizens. I believe the movement which has been inaugurated here will be a great force in the program which I understand is rapidly becoming notion-wide."

COMPETITION FOR A ROADSIDE AUTO CAMP AT SANTA BARBARA

The program for the above competition published in the October number of THE ARCHITECT AND ENGINEER *was a tentative program only and was not intended for publication.*

The Plans and Planting Branch of the Community Arts Association of Santa Barbara is still at work on the final draft of this program and hopes to release it for competition during the first half of 1932.

Announcement will be published in this magazine in ample time for prospective entrants to receive a copy of the final program.

TREE SURGERY AN AID TO THE ARCHITECT

by K. L. DAVEY

THE architect and the home owner have no doubt often wondered why the particular tree they wished to save should die while another, growing apparently under identical conditions, would thrive and flourish.

Through mankind's love of trees, efforts were made for many years to aid their preservation, health and growth, but it was not until fifty years ago that John Davey actually established tree surgery as an exact and practical science. The science he discovered and developed does not deal alone with the simple removal of decay and the mere filling of cavities, but with a technique much broader and far reaching in its scope. The treatment and care of a tree is not unlike diagnosis and advice of the medical specialist.

The tree surgeon's task may involve irrigating or the rebuilding of a tree's root system, the preservation of its balance, to perfect the ratio between top and roots, its pruning and bracing to strengthen the weaker parts and in some instances its removal to more healthy surroundings.

Obviously it is not possible in an article of this length to much more than sketch briefly what tree surgery can and will do for the architect and landscape engineer as an aid to them in preserving the lasting beauty for which they are ever striving.

Western architects have, in the past, been grossly deceived in many instances by unscrupulous persons styling themselves "tree surgeons and specialists." The results obtained have been deplorable. First, trees have been ruined, and second, the architect has decided he is through with "tree surgery." This is manifestly unfair to the scientific tree surgeon with his years of study and experimentation.

WILL ROGER'S RANCH AT SANTA MONICA
Sentimental reasons induced the famous humorist to have this aged oak subjected to tree surgery, thereby prolonging its usefulness for many years to come.

The scientific tree surgeon occupies the same relative position to the architect and landscape engineer as does the medical specialist to the general practitioner and does not offer his services where an ordinary gardener will suffice.

Much of the damage already done the profession in these Western states, which

might well be termed the "land of trees," is attributable to the fact that many of the smaller firms doing business as "tree specialists" make a practice of using inexperienced men on highly specialized cases. Again, very often where trained tree surgeons have been employed, they have been hampered by superiors who were better salesmen than tree surgeons.

Modern and scientific tree surgery has made itself felt and exemplified its usefulness in many ways. Briefly, it has increased the efficiency of power, telephone and transmission lines by proper clearage of obstructing tree branches and growth, enhanced the productivity of every type of fruit tree and medicinal scrub, and has increased the beauty and popularity of our great public and national parks. It is the architect and landscape engineer, however, who have derived the greatest benefit. So much so, in fact, that many laymen erroneously believe the landscape architect and tree surgeon to be of the same profession.

The beauty and individuality of the architect and landscape engineer's plans are often dependent on their being able to preserve intact the original position of outstanding trees on the site and the trees' relation to the structure. To these men, quite naturally, preservation means a great deal.

Thos. D. Church, Landscape Architect

GUEST HOUSE OF PASATIEMPO CLUB, SANTA CRUZ, CALIFORNIA
Clarence A. Tantau, Architect

More often than not, the engineer finds it necessary to change the grade levels to attain the desired landscaping effects. This involves either the exposing or filling in of the tree's roots. The results in either case are detrimental to the tree. Roots are tender and any abrupt change from a normal condition will often kill the delicate life giving feeder roots. These are the breathers that carry orifices or pores similar to those in the human body and when covered with too much earth are cut off from

their accustomed air supply. There are known instances where a six inch fill has meant death to a seemingly sturdy tree.

The Davey system advocates the installation of tree tile and their own aeration system where the fill is over six inches. Such installations give splendid aeration to the soil surrounding the roots and still do not impare the normal root growth. Wherever fills are necessary, it has been found that much more satisfactory results are obtained with light soils of gravely or sandy texture. Even a shale formation is now preferable, as far as root aeration is concerned, to the richer heavier soils. Adobe and gumbo fills should always be avoided.

The famous Sycamore Grove of Los Angeles is a fine example of what can be done with the Davey root system. The lower portion of the park was filled to a depth of eight feet over the old stream bed of the Arroyo Seco, completely covering the roots of the ancient sycamores. When it came time to lay the tile, we found the fill to be shale. This was a welcome discovery for the shale insured a maximum of aeration which, in connection with the subterranean flow from the original stream, supplied the needed life to the grove.

Lowering of grades are even more dangerous to tree life. Our experiments clearly indicate that the average tree cannot withstand the removal of any appreciable amount of soil especially near the crown. Hardly a tree exists whose roots cannot be exposed by excavating to a depth slightly in excess of a foot under its spread of branches. In these Western states the vast majority of tree roots lay within six inches or less of the earth's surface. In grading around a tree very often, unless carefully watched, many of the primary, as well as the feeder roots, are severed and sometimes entirely removed, and the remainder having their air supply suddenly increased, succumb very much as does a fish abruptly removed from his natural element. In cases, such as this, the tree surgeon can do little. The patient frankly requires the services of an undertaker.

The proper handling is to lower the tree, roots and all, to the grade level, but without the removal of any earth covering the roots. This operation is relatively easy with trees not exceeding fifteen to twenty inches in diameter, provided, of course, that the soil conditions are favorable and there is no embarrassing tap root involved.

Architects, when desirous of suitably covering patios and courtyards with flag stones, tile, cement or other non-porous substances, are often confronted with the problem of preserving an unusually attractive tree or group of trees. Any of these materials pack down and shut off the air, even more effectively than improper fills. The tree surgeon when brought into the picture in time, makes it possible to go through with the architect's original plan and with safety to the trees in question.

McCORMICK ESTATE AT PASADENA

An outstanding example of the tree surgeon's efficiency in this regard is the Pasatiempo Country Club Estates in Santa Cruz County, California. The club and its landscape architect, Thomas Church, wished to preserve a fine specimen of the California live oak (Quercus Agrifolia) the site of which had been selected as the setting for the guest house. The architect, Clarence A. Tantau, took full advantage of the vista down the beautiful fairway by building a patio under the spreading limbs of this oak. Before grading and the placement of the flagstones, we were called in to install our root system, using special tree tile and food. Thus did the foresight of the architect preserve this splendid natural setting for generations to come.

Often trees obstruct natural approaches to driveways or sites of specific structures. The architects or owners are loath to sacrifice these beautiful trees, thus involving the delicate task of their removal to more advantageous locations. But removal is comparatively safe when scientificially executed. Here, again, the tree surgeon proves himself indespensible to the architect.

Architects and landscape engineers are in their training taught to utilize every beauty that nature has provided in the enhancement of the loveliness of their work, and I submit that the modern and scientific tree surgeon has this common purpose with them.

Courtesy Camera Craft

ENTERING THE PORTALS

ENGINEERING

and

CONSTRUCTION

TYPE OF BOULDER CITY HOUSE CONSTRUCTION
EIGHT INCH WALLS WITH HOLLOW SPACE

Featuring

Construction Work to Date at Boulder City, Nevada

BOULDER CITY, NEVADA
Showing completed houses in foreground with brick buildings under construction in center and extreme left.

BOULDER CITY, NEVADA
Completed house showing vitrified clay sewer pipe being installed. These houses were occupied five days after photo was taken.

A CITY OF BRICK

by NORMAN W. KELCH, Architect

BOULDER CITY, Nevada, on the plateau adjacent to Hoover Dam, is a complete city in the making, all of the buildings of which are of brick construction. In planning this model city, the Reclamation Bureau of the United States Department of the Interior, considered three major factors, namely: climate, types of construction and cost. The climate demanded that exterior walls have a high insulating value, and with this in mind, seven types of construction were considered, each being so arranged and insulated as to provide approximately the same degree of insulation. Alternate bids were taken on all types. The greatest economy and efficiency were found in the use of common brick laid so as to form a hollow space within an 8" wall, a system known as "Ideal Rolok" wall construction.

The exteriors of the first twelve residences are plastered over the brickwork. Seven of these houses are now completed and occupied, with the other five receiving finishing touches. The second twelve residences, for which a contract was recently let, are in various stages of completion, from foundations in, up to having exterior walls and interior framing completed. In this second group, the exterior brickwork has been laid with metal strips in the joints (removed after laying) so as to make a clean-cut recessed joint. It was the intention to have these houses white-coated with a waterproofing compound, but according to Walker R. Young of the Reclamation Bureau, Superintendent of the Boulder City project, these finished brick walls have such an attractive appearance, they may be left as plain brickwork, without white-coating.

Brick construction is being used for all of the buildings in the city. Some of the larger buildings, such as the Hospital, which have heavier roof loads, will have solid exterior walls of brick. Those having fireproof floor systems, such as the Administration Building, for which the structural steel work is now in place, will have a clay-tile-concrete-joist floor system.

All residences contain a regular fireplace trimmed with face brick, having fire brick fire-boxes with fire clay flue linings in the chimneys. Various types of roof tile are being used, including the one-piece Spanish type, the two-piece machine-made Mission and the special hand-finished machine-made Mission tile.

Remarkable progress has been made in the construction of the city in spite of the extremely hot weather during the past few months. The contractors state that much better progress will be made during the cooler winter months.

There have been about 400,000 brick laid to date, and the entire city will require 5,000,000 common brick, together with some face brick. There will also be large quantities of floor tile, paving brick and other clay products used before the work is completed. The entire city is sewered with vitrified clay pipe.

The reason for constructing a permanent city is in the expectancy that it will become a popular resort subsequent to the completion of the dam. A visit to the site impels

* Secretary-Manager, Clay Products Institute of California.

BOULDER CITY, NEVADA
General view of a dormitory building under construction.

one to agree that this expectancy is not unjustified. The broad sweeps of valley and mountains on the plateau side, and the great expanse on the other side, which will form the future lake above the dam, which is surrounded by an inspiring group of mountains, should make this an ideal resort.

The illustrations, from photographs by the writer, indicate the progress of the work thus far, but do not in any wise show the beauty and grandeur of the setting.

BOULDER CITY, NEVADA
Typical residence showing stripped joints in brickwork.

FOUR COUNTIES INTER-CONNECTING BAY BRIDGE

by L. H. NISHKIAN, C. E.

UNTIL a year ago, the San Francisco Bay bridge was very much in doubt, due to the War Department ruling against any bridge north of Hunters Point. It has been only within the last few months that the Hoover-Young Commission removed the main obstacles and the Bay bridge is well on its way to become an accomplished fact under the direction of the California Bridge Authority.

During this period of uncertainty of the Bay bridge, the Golden Gate Bridge District was formed and when present legal questions are cleared away the directors will let contracts for the construction of the bridge. The results of this order of happenings has been that no coordinated study of the transportation problems involving all the bay communities has been made. It is proposed to spend in the neighborhood of one hundred million dollars without a thorough-going study having been made of the possibility of providing means for interconnecting all the major bay communities by one project.

The construction of the Oakland bridge by way of Yerba Buena Island suggests one solution for an interconnecting bridge, which is shown on the accompanying plan.

Briefly, it consists of a connection to the Bay bridge at Yerba Buena Island, running approximately north along the edge of the shallow waters of the east bay shore and connecting to Berkeley, Richmond, and the northerly shore of the Tiburon Peninsula.

It will be noted that the depths north of Yerba Buena Island along the route proposed, run from a few feet to a maximum of about 25 until a point opposite Richmond is reached. It should be perfectly feasible to build this portion on pile bents close together, similar to the San Mateo bridge, only twice as wide, accommodating six lanes of traffic. The branches to Berkeley and Richmond can use this same type of construction, but the branch turning to the west going to Marin County, will have to be, for a good part, long span steel construction with one main span of about 1500 feet and a clearance of 220 feet. The various lift spans shown may be built with a vertical clearance of about 75'-0" which can be raised to 220'-0" for unusual vessels. The clear width of span indicated is 200'-0".

The advantages of this arrangement over the Golden Gate bridge plan, in brief, are as follows:

1. A direct connection is provided between Marin County and Oakland, Berkeley and Richmond.

2. A direct connection is provided between San Francisco and Berkeley and Richmond.

3. The time from 5th and Market Streets, San Francisco, to San Rafael, is reduced from 5 to 10 minutes. Although the distance via the Golden Gate bridge will be about 18 miles, and via the proposed interconnecting bridge will be about 18.9 miles, it will undoubtedly be faster via the latter route, since once one is on this bridge there will be a clear road without stop, on which a speed of 45 miles per hour may be maintained all the way across.

4. Direct rapid bus service from San Rafael and Richmond to San Francisco's business and financial districts will be practical.

5. The time to Sacramento Valley points from San Francisco via Richmond will be shortened 10 to 15 minutes.

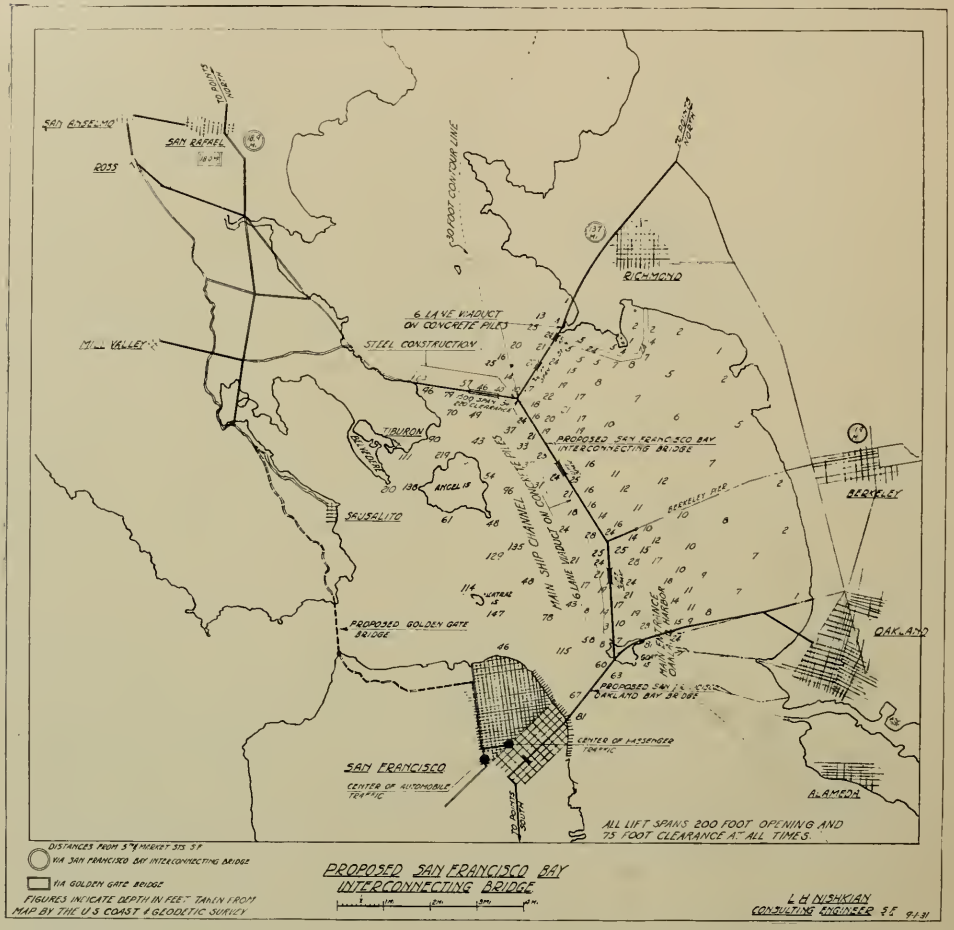
6. Sixty to seventy per cent of the entire cost of the construction from Yerba Buena Island north would be spent in the Bay District.

7. No possible tax burden would be placed on San Francisco or other counties.

8. The bridge will be an aid to navigation as it will mark the shallow shoal waters, which all large craft naturally avoid.

9. The proposed aviation field at Yerba Buena Island may be further removed from the island, thus reducing the menace to aviation which would result from the nearness to the Oakland bridge towers.

An approximate estimate of the cost of the unit from Yerba Buena Island to Marin County, Richmond and Berkeley, indicates



SUGGESTED COURSE OF PROPOSED SAN FRANCISCO BAY INTER-CONNECTING BRIDGE
L. H. Nishkian, Consulting Engineer.

An approximate estimate of the cost of the unit from Yerba Buena Island to Marin County, Richmond and Berkeley, indicates

that it could be built for about $35,000,000 to $40,000,000, which is comparable to the cost of the Golden Gate bridge.

The traffic over the interconnecting bridge will probably exceed the combined estimated traffic of the Golden Gate and Bay bridges, as it will create considerable new traffic between the east bay and Marin counties. Also a good deal of truck traffic would use this bridge that would not use the Golden Gate bridge, on account of grades and its remoteness from the trucking business center. I would estimate that the Bay bridge traffic will be increased 50 to 60% and will tend to become more uniform.

It is not within the means of a private engineer to make borings, assemble the necessary engineering data and information to make an accurate estimate of a project of this magnitude. The California Bridge Authority could very properly do so. If a more complete and thorough investigation by that body confirms the advantages listed above, the public interest would demand that the project as shown on the map, or perhaps some better solution developed by the California Bridge Authority, be given careful consideration.

SPAIN GOES AMERICAN

San Francisco Chronicle

A Palo Alto architect, Birge M. Clark, lands in New York from a tour of Spain with a warning to Californians that if they ever hope to see the originals of the architecture the Golden West calls Spanish-Californian they will have to hurry. While we are imitating Spanish architecture Spain is Americanizing herself. One now has to go out in the country and look at the farm houses, says Clark, to find models for the palaces of Hollywood and Pasadena. On the other hand some Iberian Henry Ford, looking for a genuine old Spanish house to preserve may, before long, have to come to California to get one. Spain has the building fever and a modern one. Grandfather's styles are out with the Bourbons.

ENGINEERS AID ENLISTED

Plans to mobilize the nation's engineers behind President Hoover's program to end the depression are announced by the American Engineering Council. The aid of more than 100,000 engineers will be enlisted in a movement to increase and to stabilize employment, and to prevent the adoption of unwise legislation, Federal, state, or municipal.

The Council will work with the relief organization set up by the President under the leadership of Walter S. Gifford, president of the American Telephone and Telegraph Company, who is a member of the American Institute of Electrical Engineers. The aim, it was said, is not only to promote emergency measures but to develop sound permanent employment policies throughout American industry.

F. J. Chesterman of Pittsburgh, vice-president and general manager of the Belle Telephone Company of Pennsylvania, has been appointed chairman of a national committee to direct the engineering effort, which will be carried out in detail by committees to be named in every state. These committees will cooperate with the industries and with civic and business bodies.

Other members of the national committee are: General R. C. Marshall, Jr., of New York, who was in charge of the Construction Division of the War Department during the World War; E. K. Ruth, American Oak Leather Company, Cincinnati; W. R. Webster, Bridgeport Brass Company, Bridgeport, Conn.

"The American Engineering Council," the announcement declared, "feels most emphatically that the immediate answer for unemployment is jobs; that the spreading of man-hours is the most essential expedient for stabilizing employment that can be suggested at the present time.

"The situation calls for very active, concerted and well-considered efforts to provide employment for as large a number as possible now, and especially to the development of plans which will forestall any large increase in unemployment next winter.

"Undoubtedly the attitude of mind accounts for the sharp decline in purchases being made by those who have not suffered material, if any, reduction in income and whose continued income is as safe as anything in life. Today many who have em-

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The ARCHITECT'S VIEWPOINT

¶ *Texas Replies to Clarence Ward*

¶ *Not All Cacti and Dust in Lone Star State*

¶ *Public and Private Structures have Architectural Merit*

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MR. CLARENCE WARD in "The Architect's Viewpoint" for August states that the setback type of structure would be useless in, "say—a third rate town in Texas, which has nothing else but acreage and sunshine." I, myself, under like conditions, would not recommend such a type of architecture. Yet, I read between the lines; perhaps my California friends think that all Texas has only what Mr. Ward expressed in the above phrase. I hope, in my small way, to remove that impression.

To Californians Texas is a long way off, and when one thinks of Texas he invariably thinks of cow towns and mesquite. He thinks of Billy the Kid, of Roy Bean and his Law West of the Pecos, of two-gun bandits, of long-haired cattle, and of ranches that cover several counties. Plains hot and dusty, yes, but there are hotter plains in California!

But Mr. Ward must have been thinking that Texas has only plains, and forgot that there are mountains, hills, and vales within our borders, wherein we, too, have beautiful skyscrapers, public edifices, costly homes, country estates, oil, and no third rate towns. Speaking of verdant growth, why, right up in Montgomery County is a word called the "Big Thicket" through which no man has penetrated. It just has not been done. Bathing, I doff my hat to the sandy beaches of Galveston and Corpus Christi. Fishing, I am not mentioning how the gulf fish might straighten out hooks. But that is far from the subject of Architecture.

* * *

MY first impulse led me to call on the Publicity Agent for the Houston Chamber of Commerce. I knew he had been traveling around a bit gathering data about Texas. I was only interested in the state's architectural beauty, and told him so. He had photographs of old Spanish missions that would vie with those of California, of stately colonial homes amid moss-covered live oaks and cotton fields, and also of the French Embassy in Austin. Further, I had in mind grain elevators, ship channels, coastal waterways, cotton gins, and wharves. Then for scenery there were the mountains, forests, rivers, lakes and orchards.

Of the missions, the one known as the Alamo in San Antonio, has become a shrine for Texans where in 1836 they were bested by Santa Anna. It is so well known that its historical significance outweighs its architectural beauty. Then while in the environments of San Antonio visit the San Jose mission. Huisar, the Spanish sculptor, executed the exquisite carvings of the Baptistry window, sometimes known as the Rose window, which is copied by architects and artists alike. It is interesting to note that of the many missions in the Southwest these two are the only ones which have two-story cloisters.

Refreshed at seeing those gems of Texas architecture, and having only last week come down from the mountains to the west of Austin, I thought, "Surely, Texas has more than acreage and sunshine." I went over to call on Alfred Finn.

"Well, Mr. Finn," I said, "I am glad to see you again. It has been some time since I saw you at the Architect's luncheon."

He was seated at his desk, and it was late in the afternoon. As he looked at me wondering, I suppose, what brought me there after office hours (not for a job, I hope), I said, "California might have an erroneous impression that we dwell in wide open spaces surrounded by cacti and dust." I continued, "The Gulf Building of your de sign would obviate such ideas."

"It would," he said, "but you must add Kenneth Framzheim and J. E. R. Carpenter as Consulting Architects of that building."

* * *

LATER I sauntered over to the office of Governor Ross Sterling, and there I saw the ambitions of one man come true. From barefoot boy, up through the grades of hard work to the oil fields, and then a-massing millions; riches beyond the touch of Midas. Dreams; a newspaper, a railroad, tall buildings, a home on the bay, and then the attainment of all barefoot boys of Texas—the Governor of the state that has flown six flags.

And then we must not forget our capitol in Austin. It is the largest state capitol building in the Union, and cost, not in terms of money, but in terrene, a total of three million acres of state-owned land. The exterior walls are of pink granite from Granite Mountain, Texas, and dominating this structure is a dome not unlike the one on the National Capitol. Within, the rotunda is encircled by balconies, and from the uppermost one stairs lead to the top of the dome. It is in this building that the business of the state is carried on, and unfortunately the American Institute of Architects Chapters have not yet succeeded in passing a satisfactory law for the licensing of architects. But the time is coming!

I ought perhaps to add here the old Land Office on the capitol grounds, resembling somewhat an ancient castle on the Rhine.

Then my thoughts turned to our schools, and in particular that of the Rice Institute in Houston so wondrously designed by Mr. Ralph Adams Cram, structures neither Byzantine nor Moorish, but a combination of those details borrowed to create the ensemble. Later he was commissioned to design the Public Library which is the start of a Civic Center.

Finally, we have our River Oaks with homes designed by nationally known architects. One never tires of walking along the curved walks of this suburb of Houston. A new vista greets the eye at every turn, and one sees the modest colonial home or an English manor nestling in a wealth of stately trees. These grounds, a park in the Southern pines, were laid out by Chas. W. Oliver, Supervising Architect for the River Oaks Corporation, and all construction programs are submitted to him for his approval.

* * *

I COULD dwell more fully upon the beautiful things and places found in Texas, but hope that this little sketch will suffice to prove that all here is not acreage and sunshine. This, purely as a light essay, is so written, and I hope some day Mr. Ward will enjoy a stay here that he may become convinced that our state is something more than deserts and cow towns.

ROSS W. EDMINSON, Architect
Houston, Texas.

ENGINEERS' AID ENLISTED

[Concluded from Page 23]

ployment are not spending because of fear of what may happen. They are fearful that they may lose their jobs or have their income sharply curtailed.

"It would be exceedingly helpful to restore a sense of security. Therefore, employers are urged to at once notify all employees whom they know they are going to keep on the payroll that their incomes will not be reduced for some definite period of time. This alone would be very effective in restoring confidence and stimulating business.

"There is a very pronounced feeling that industry and commerce are largely responsible for the perplexities which have arisen, and that they should provide a satisfactory solution. This thought is not confined to any so-called radical group, but it also prevails among fair-minded, far-seeing men and women.

"They realize that unless industrial and commercial leaders successfully deal with the problem of unemployment in permanent fashion that both the Federal and State Governments will very likely enact unemployment insurance laws. That such laws would be detrimental to the economic and social well-being of the nation is generally acknowledged. Whether this country escapes such consequences will depend entirely upon the constructive leadership manifested by American industry and commerce."

The Council, which is the public service body of the engineering profession, and which was organized in 1920 under the leadership of Mr. Hoover, warns that "a concerted movement has been inaugurated to bring about the enactment of Federal and State unemployment insurance laws."

"The Council," it was added, "emphatically believes that such legislation is neither the only nor the best solution. It feels that there is sufficient forward looking, constructive and public-spirited leadership in American industry and commerce to seriously study the issues and on the basis thereof to develop plans for permanently dealing with unemployment, however caused, and further, so to stabilize employment as to hold unemployment to the irreducible minimum.

"The Council also recognizes that engineers compose an important fraction of the industrial and commercial leadership of the nation; consequently they are in a position to make an essential contribution to the development of measures looking towards stabilization of employment throughout the economic fabric of the nation.

"The engineers have a very direct responsibility to do what they may as industrialists and as citizens. It is believed that they will gladly undertake such a task because of their direct personal interests and because they believe in constructive citizenship.

"Having this faith in the engineering profession, and aware of the imperative necessity for prompt response, the Council with confidence is submitting to a large number of engineering and allied technical societies of the United States a program of action."

OPTIMISM

A more optimistic feeling has come to the building industry of San Francisco during the past month, due to two factors—first, the favorable report of the Impartial Wage Board, and second, the movement to end the activities of wild-cat contractors. One favored plan being considered to combat the price and wage cutters is "certified homes." Guarantees would be given that the workmanship, lumber, plaster, plumbing and all other materials were as represented to the purchaser. Another plan under consideration is an organization of banks, material dealers and surety bond men to force the "wildcatters" into line.

ALFRED I. COFFEY, ARCHITECT

Alfred I. Coffey, member of the firm of Coffey and Rist, architects, of San Francisco, died November 10, climaxing an illness which began with a stroke three months ago. Mr. Coffey was 65. He was one of the few remaining members of the old school engaged in architectural practice in San Francisco. A graduate of St. Mary's College, he began the practice of his profession when comparatively young and was associated with various architects before opening an office for himself. Of late Mr. Coffey had specialized in hospital and school work, his partner, Martin J. Rist, contributing not a little to the success of the firm. Several important commissions for the city and county of San Francisco were still in the planning stage when Mr. Coffey passed away, including the new cancer institute and the physcho-pathic hospital. Additions to the San Francisco hospital, Southern Pacific hospital and school buildings at San Mateo and other points are late examples of Mr. Coffey's work.

WITH the ARCHITECTS

APARTMENT HOUSES FEATURED

An exhibition of apartment houses was held the early part of November in the Architects Building, Fifth and Figueroa Streets, Los Angeles. It was held under the auspices of the Apartment-Income Properties of Los Angeles, Ltd., and included the work of California architects who specialize in this type of design.

At the close of the exhibition honor awards were made by a jury of six, including three members appointed by the State Association of California Architects and three from the Apartment-Income Properties Association. Carlton Monroe Winslow, vice-president of the Southern California Chapter of the American Institute of Architects, David C. Allison, member of the educational committee of the State Association, and Professor C. R. Johnson of the School of Architecture at the University of Southern California, were alotted the responsibility of judging the designs from the standpoint of architectural beauty and arrangement.

The buildings that received honorable mention will be illustrated in this magazine in an early issue.

PROVISIONAL CERTIFICATES

Provisional certificates were issued by the State Board of Architectural Examiners, Northern District, at their meeting on last October 27th, to the following: Edward J. Vogel, 848 Gough Street, San Francisco; Wesley Andres Talley, 1554 Sonoma Avenue, Berkeley; George Patton Simonds, 1276 "A" Street, Hayward, California.

Provisional certificates were issued to the following by the Southern District Board at their meeting held last September 29th: Sonke Engelhart Sonnichsen, 411 West 7th Street, Los Angeles; David Wellington Terwilliger, 1806 S. Orange Drive, Los Angeles.

The State Board of Architectural Examiners, Northern District, is desirous to learn the present address of Emory M. Fraiser, whose last known address was 907 Merritt Building, Los Angeles.

FIGURING POST OFFICES

A large number of California contractors have taken out plans and specifications for the new post office building at Stockton, bids for which are to be opened at Washington, December 8th. Appropriation for this building is $695,000. The architects are Bliss and Fairweather of San Francisco, and Howard G. Bissell of Stockton.

Contractors are also figuring an addition to the Alameda post office building and bids were opened November 6th for an addition to the Berkeley Federal building. In San Francisco a substantial addition is planned to the Mission Street post office from plans being prepared in the office of George W. Kelham.

JEWISH COMMUNITY CENTER

At a cost of $650,000 work is scheduled to start shortly on the new Jewish Community Center, California Street and Presidio Avenue, San Francisco. Funds for this enterprise were raised some months ago. The plans are well advanced in the office of Hyman & Appleton, with Arthur Brown, Jr., as associate architect. The project includes a gymnasium, swimming pool, little theater, administration offices, etc.

RESIDENCE WORK

William W. Wurster, architect, 260 California Street, San Francisco, reports that plans are progressing satisfactorily for two residences in Honolulu. One is a $30,000 home for Mrs. W. Thomas Balding. Mr. Wurster has recently awarded a contract for the construction of a mountain house at Big Sur, Monterey County, California, for Mr. and Mrs. E. L. Boss.

SAN JOSE APARTMENTS

Frederick H. Slocombe, architect, of Oakland, has completed drawings for a two story frame and stucco apartment building to be built in San Jose for R. D. Campbell. The structure is to be located at 9th and San Antonio Streets.

DOMESTIC ARCHITECTURE

To stimulate interest in home building, an exhibition of domestic architecture was held at the Emporium, San Francisco. The exhibit was sponsored by the Northern California Chapter, A. I. A., and was representative of what the architects have done in the Bay Region during the past two or three years. The display was a forerunner of a more pretentious exhibition planned for 1932.

TELEPHONE BUILDING

A two story steel frame, concrete and brick telephone exchange building is to be erected on the southwest corner of Pine and Steiner Streets, San Francisco, from plans by the company's engineering department. Excavating for this $100,000 building is in progress. A contract for the structural steel has been awarded to the Judson Pacific Company.

MR. WOOLLETT'S ARTICLES

William L. Woollett's scholarly article on the Number Two in Architecture, the first installment of which appeared in THE ARCHITECT AND ENGINEER for October, will be concluded in the December issue. Mr. Woollett has written another essay of interest to the engineer which will appear in this magazine soon.

SAN JOSE STATE BUILDING

Ralph Wyckoff, architect, of San Jose, has completed plans for a new science building to be built on the grounds of the State Teachers College, San Jose. The building will be 182x220 feet, of concrete and brick, with terra cotta tile roof. The appropriation is $200,000.

OAKLAND STORE BUILDING

Contracts have been awarded for a two story and basement brick store building at 35th Avenue and East 14th Street, Oakland, from plans by Williams and Wastell, architects of that city. The building will cost $25,000. Charles W. Heyer is the general contractor.

CHICO STORE BUILDING

Plans have been completed by Russell Guerne De Lappe and Valdimar Oglou of Oakland for alterations and additions to the store building at Second and Wall Streets, Chico, recently damaged by fire. The property is owned by Louis Soroni, of San Francisco.

STATE BOARD PLEASE ANSWER

Editor THE ARCHITECT AND ENGINEER:

If an architect, through oversight or financial inability, fails to pay his license fee and the State Board suspends his license, is he obligated to take the State Board's examination before he may be restored to good standing?

If he pays his delinquency in full is he not entitled to his license to practice without going through the ordeals of another examination?

An Oakland Subscriber.

STOCKTON ARCHITECTS BUSY

The firm of Davis-Pearce Company of Stockton, is busy on plans for a junior high school building at Vallejo for which bonds amounting to $200,000, have been voted. The firm is also at work on drawings for a three story Spanish style veteran's memorial building at Santa Cruz, to cost $50,000. A similar building is also planned for Watsonville.

FEDERAL OFFICE STRUCTURE

Contracts are scheduled to be awarded early in December for the construction of a seven-story and basement, Class A Federal office building at Portland, Oregon, from plans by Whitehouse, Stanton & Church, Railway Exchange Building, Portland. The appropriation for this project is $1,287,000.

SAN FRANCISCO FEDERAL BUILDING

After many months of delay, the proposed new Federal building for the San Francisco Civic Center, looms as an assured project. A clear title has been obtained of the site and the architect, Arthur Brown, Jr., is now in a position to go ahead with the plans. The appropriation is $3,050,000.

EASTERN STAR BUILDING

William Mooser & Son of San Francisco, and Train & Cressey of Los Angeles, have completed plans for a $250,000 sanitarium to be erected in Beverly Hills, for the Eastern Star of California.

CANNERY BUILDING

Felice & Perrelli of Richmond and Gilroy have had plans prepared by William Knowles of Oakland, for a one story cannery building to be built at the company's plant at Gilroy.

SUBSCRIBERS MOVE

E. J. Osborne has moved to 251 Kearney Street, San Francisco.

John A. Grunfor has moved to 124 North Central Avenue, Glendale.

Milton J. Black is now located at 5410 Wilshire Boulevard, Los Angeles.

Russell E. Collins is at 215 West Seventh Street, Los Angeles.

Samuel H. Durnford has moved to 119 Oviett Building, Los Angeles.

Pring & Lesswing have moved to 550 Montgomery Street, San Francisco.

George A. Palliser is at 4821 Kenmore Terrace, San Diego.

Andrew B. Talbot has moved to 3060 Pacific Avenue, San Francisco.

Saul H. Brown has moved to 926 North Robinson Avenue. Los Angeles.

Nathan Lindell Coleman's new address is 5108 Ambrose St., Los Angeles.

Theodore R. Jacobs has moved to 1107 Central Building, Los Angeles.

Shaw & Hales have moved to 1510½ North Vermont Avenue, Los Angeles.

Charles A. Dieman has moved from Houston, Texas, to Santa Fe, New Mexico.

Paul V. Tuttle has moved from Alameda to 1219 Hopkins Street, Oakland.

BERKELEY THEATER

After several weeks delay, plans are being revised for the new Fox West Coast theater at Bancroft Way and Shattuck Avenue, Berkeley, and construction will go forward in charge of the Beller Company, which has opened offices in the Mercantile Trust Building, Berkeley.

OAKLAND CANDY FACTORY

Lindgren & Swinerton, Inc. have been awarded the contract by Miller & Warnecke, architects, to construct a two story brick candy factory and store building on Lakeshore Avenue, Oakland, for Edy's Character Candies, Inc.

MILITARY ACADEMY GYMNASIUM

Plans have been completed and the contract let for a new gymnasium building at the San Rafael Military Academy. The plans were prepared by S. Heiman, architect, of San Francisco.

THE ARCHITECT AND THE ENGINEER

By WARREN D. BRUNER

The architect and the engineer.
Where would he be today
Without the skill and patience
Which they put into play?

The engineer and the architect.
Between them they make rise
A tall and splendid city
That towers to the skies.

The architect and the engineer
Bring romance into life.
They add a dash of color
To this mad world of strife.

The engineer and the architect
A straight course they maintain.
Creative genius drives them
While most others toil for gain.

The architect and the engineer
Have vision and to spare.
They dream of lofty structures
Where we see naught but air.

The engineer and the architect
They put their dreams on plans
That in the hands of workers
Take shape as structural spans.

The architect and the engineer
They built the pyramids;
I wonder if in those times
Contractors gave them bids.

The engineer and the architect
High standards they uphold
Which are a bit refreshing
In the sordid search for gold.

The architect and the engineer
To them we raise a cheer;
If you think this world's progressing
Thank the Lord who put them here.

SMALL HOUSE EXHIBIT

An exhibition of small homes, featuring the work of Clifford Truesdell, Jr., architect, was held last month in the Architects Building, Fifth and Figueroa Streets, Los Angeles. Photographs, sketches and floor plans of moderate sized houses comprised the display. Mr. Truesdell has made a study of the problems which are met in the design of small homes and the exhibition of his work offered many solutions which he has found to be satisfactory.

BLIMP FOR MAYAN RESEARCH

In an effort to discover two more lost cities of the Mayan civilization, blotted from sight by the dense jungles of Yucatan and Guatemala, Robert B. Stacy-Judd, architect and explorer of Los Angeles, will make his next quest in a blimp or small dirigible.

"An airplane travels too swiftly to make close observation possible," Stacy-Judd explained. "An airship will be able to settle at any point desired and lower members of our party to the ground to carry on the inspection on foot. The airship will allow us also to traverse land never before touched by a white man.

"The blimp I am negotiating for probably will be slightly larger than the one familiar in the California skies. A cruising range of about 500 miles will be required. There will be twelve men in the scientific party."

PERSONALS

H. L. Gogerty has moved his office from the Hollywood Guaranty Building to 6272 Yucca Street, Hollywood.

Orville L. Clark has moved his offices to 215 Architects' Building, Fifth and Figueroa Streets, Los Angeles.

Charles J. Gilmore and Claude F. Norris announce the formation of a new architectural firm in Phoenix, Arizona, to operate under the name of Gilmore & Norris. The firm has established offices at 307 Security Building.

Walter Hagedohm has been chosen a director of the Architects League of Hollywood to succeed James Handley.

Harry J. Devine, architect, has moved to new and enlarged offices in the California State Life Building at Tenth and J Streets, Sacramento. Mr. Devine is one of few architects whose business has not been seriously injured by the "depression."

H. G. Bissell, architect, of Stockton, who has been teaching architecture and design at the College of the Pacific for the past four years, has started a new course in City Planning. Mr. Bissell is secretary of the Stockton City Planning Commission.

ACADEMY IN ROME COMPETITIONS

The American Academy in Rome has announced its annual competitions for fellowships in architecture, landscape architecture, painting and sculpture.

In architecture the William Rutherford Mead fellowship is to be awarded, in landscape architecture the Garden Club of America fellowship, and in sculpture the Rinehart fellowship provided by the Peabody Institute of Baltimore, Maryland.

The competitions are open to unmarried men not over 30 years of age who are citizens of the United States. The stipend of each fellowship is $1500 a year with an allowance of $500 for transportation to and from Rome and an allowance of $150 to $300 for materials and incidental expenses. Residence and studio are provided without charge at the Academy, and the total estimated value of each fellowship is about $2500 a year.

The Academy reserves the right to withhold an award in any subject in which no candidate is considered to have reached the required standard.

The term of each fellowship is two years in architecture and landscape architecture, three years in painting and sculpture. Fellows have opportunity for extensive travel and for making contacts with leading European artists and scholars.

The Grand Central Art Galleries of New York City will present free membership in the Galleries to the painter and sculptor who win the Rome prize and fulfill the obligations of the fellowship.

Entries for competitions will be received until February 1st. Circulars of information and application blanks may be obtained by addressing Roscoe Guernsey, Executive Secretary, American Academy in Rome, 101 Park Avenue, New York.

THE W. H. WEEKS CASE

On motion of the California State Board of Architectural Examiners, the State Appellate Court has dismissed an appeal action, filed by the board September 11, in the case of W. H. Weeks, architect, of San Francisco and Oakland.

The board last March revoked Mr. Week's license for alleged inflating of prices of buildings on which he was employed as architect.

On September 2 the Superior Court ruled that the State Board had exceeded its jurisdiction. Attorneys for the board gave notice of an appeal, which was later withdrawn.

SOCIETY and CLUB MEETINGS

PRESIDENT KOHN AT SEATTLE

Robert D. Kohn, President of the American Institute of Architects, and Fred F. Willson, Regional Director, were entertained by Washington State Chapter in Seattle, October 22. After being welcomed by officers of the Chapter and given a brief opportunity to view some of the architectural developments of the city, the visitors were escorted to the Frederick & Nelson Tea Room for a luncheon and meeting with the Chapter.

At the conclusion of the luncheon President Borhek introduced President Kohn, suggesting several topics for discussion and, as offering somewhat wide possibilities, Mr. Kohn selected one pertaining to the activities of the Institute.

The influence of the Institute, Mr. Kohn said, appeared to be out of proportion to its numbers. This had been mentioned by other organizations much larger in numerical strength, and a significant example had been the Institute's recognition by the Carnegie Foundation as a leading influence in education in the arts. The importance of the Institute had also been evidenced by significant gifts. For example, an interesting house of the Colonial period had been given the Institute with an endowment by a resident of South Carolina, and there was a similar gift to be made from New Jersey. The Institute supports other associations in the building industry which look for leadership as shown by the organization of the newly organized Construction Group, which was interested primarily in the service being rendered by its members.

Referring to problems to be solved by these influences, Mr. Kohn mentioned a public need for sensible plan production, somewhat akin to the certificate of necessity in other fields; the tendency of financial companies appearing now to be not to loan anything, a reaction from the previous habit of loaning recklessly.

Mr. Willson was then called upon to give some experiences as Regional Director. After referring to the interests and scope of his task, he mentioned the need for dividing his Western Mountain District with its wide extent of territory and also suggested that there be some better method of electing a Regional Director. Mr. Albertson, a former Director, spoke of the problem the Regional Director had before him in visiting so large an area and the problem of otherwise securing contact with Institute headquarters.

President Borhek then suggested for discussion the scope of the Institute with an inquiry into the reason for non-Institute state societies. Mr. Kohn believed that architects were outside of the Institute because they either did not desire to conform to its principles or were not qualified, an example of the latter being many who had become registered architects under the so-called "Grandfather Clause" of the state registration acts. He believed there was a need for associations of non-Institute architects and for all in the profession, as state action by all registered architects was sometimes desirable.

President Borhek presented the topic of publicity by expressing a belief that the limited publicity program of the Institute was a reason for association of outside architects leading to desire for unification of the profession. He believed also that there was a need for selling the architect to that portion of the public who did not recognize the value of architectural service. Mr. Borhek believed an analyst was necessary to adequately get at this situation. Our effort should begin with the school children as was done in music and other branches of the arts. Mr. Kohn believed that in this we depend largely on local effort, although much had been done and was being done by the Institute which was not realized, as its information service was inadequate.

In the general discussion on the subject of publicity, Harlan Thomas expressed himself as believing that newspaper advertising of architects was undesirable, the best publicity coming from the architect's devotion to his work. The architect should satisfy his client and take part in civic activities. If advertising were done it should advertise architecture, not architects. Mr. Vogel agreed with Mr. Thomas, but believed it advan-

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tageous to employ some supplementary means, through advertising, to direct public attention to the efforts of the architect.

Enlightenment on qualifications for membership in the Institute being desired, Mr. Kohn believed a main qualification was a desire to come into the Institute and conform to its principles. Mr. Vogel spoke of the examination he was compelled to undergo when he joined, and Mr. Kohn, while he believed that professional ability should be required, considered capabilities so divergent that such barriers as rigid examination were undesirable. A public statement covering the position of the Institute was being prepared for general circulation.

After the noon meeting with the Chapter Mr. Kohn visited the Architectural Department of the University and spoke to the students assembled in the drafting room.

The evening meeting, to which all architects were welcome, was held at the Pine Street Tea Room. At this meeting President Kohn spoke of the architect's connection with Federal buildings. He said that the present giving out of work to architects in private practice by the Treasury Department was a temporary measure, it being the Department's intention to discontinue this when the present emergency is over. The Government's office is not organized to give out architectural work. Without criticizing the good men who were in this Department of the Government service, this large Governmental office could not work effectively. It was too large for effective operation under the best circumstances and competent architectural executives could not be obtained for this service.

In advocating a change we should get support from others in the building industry, stressing the advantage to the community of local control. If any change was made the essential importance must be realized of getting outside architects who are competent. A Federal Department of Public Works had been advocated to handle all Government construction. This effort, in the past, had failed of support from the Institute because the head was to be an engineer. It was now proposed to have a non-professional administrative head with two divisions, headed respectively by an architect and engineer. This is too sweeping a measure to be adopted at this time and the best we can hope for now is some improvement through appropriation bills, leaving the supervising architect as now in the Treasury Department.

On the subject of architect's fees the Institute schedule generally accepted and recognized by the courts in the absence of other agreements is valuable. But it is not a logical method of arriving

at a proper compensation for the architect, and another method, the cost-plus, is believed to be gaining. Whatever method is employed, the architect should be decently paid and he should insist on such compensation.

Architects need support from others in the building industry as others in the industry need the cooperation of the architects. This was the idea of the newly organized Construction Group. Good human relationships should be established. The leadership of the architect is desired, as has been plainly shown in the use of architects to settle building disputes.

General discussion being invited, Mr. Gould asked what had been done in regard to architectural bureaus of the Government other than in the Treasury Department. These were briefly cited by President Kohn with the statement that they were being given attention. Mr. Torbitt, being asked to say something about fees, said that architects should be concerned more with what they give than what they get. Mr. Willatsen believed an architect should charge what his work was worth.

John Hudson, President or the State Society, believed that Federal work by local architects should have general support.

To effect some definite progress at this meeting, Mr. Kohn suggested the appointment of two joint committees, one to organize all architects and the second to get support from all elements of the building industry. A motion that this be the sense of the meeting was voted and President Borhek announced that the Washington State Chapter of the Institute and the Washington Society of Architects would be so informed.

OREGON CHAPTER MEETING

Twenty-three members of Oregon Chapter, A. I. A., attended a welcome dinner to President Robert D. Kohn, of New York, and Regional Director Fred Willson, of Bozeman, Montana, at the University Club, Portland, October 21.

A report of the special committee regarding organization of a State Association of Registered Architects was read by Chairman Lawrence. After considerable discussion Mr. Herzog moved the adoption of the last paragraph of the report, seconded by Mr. Church. Mr. Holford offered as an amendment that a Chapter committee be appointed to confer with the State Board of Architects Examiners, asking them to carry out the provision of this resolution. If the State Board for any reason declines to act then the Chapter committee will carry out the resolution. The resolution carried as amended.

It was moved by Mr. Stanton, seconded by Mr. Church and carried, that Mr. Foley of the Association of Professional Societies be invited to the next Chapter meeting.

Mr. Willson spoke on the unwieldy size of the "Western Mountain" regional division and of the difficulties in the way of dividing it.

The meeting then adjourned to the dining room where the Chapter was joined by eight or nine non-Institute members. After talks by Mr. Willson and Mr. Kohn the meeting was thrown open for general discussion, which lasted until 10:30 o'clock. W.H.C.

SPOKANE SOCIETY OF ARCHITECTS

Julius A. Zittel, President of the Spokane Society of Architects, entertained visiting and local delegates to the Northern Building Industry Conference at a banquet at the Spokane Hotel September 12. A general round table discussion of the many phases of current professional problems taken up at this gathering was constructive and interesting.

H. W. Doty, Portland, told the group that an architectural clinic idea has been developed in Portland. By this method plans are checked by a committee in order to forestall difficulties on the job later on. "Such difficulties, when found too late, give the entire profession adverse publicity," said Mr. Doty.

H. C. Whitehouse, Spokane, told of his firm, Whitehouse and Price, showing a complete exhibit of all sketches, drawings and details made by his office on the new cathedral recently completed at Spokane. The public, it seems, was amazed at the volume of work necessary to turn out a set of plans.

Fred F. Wilson, Bozeman, Montana, in giving a few sidelights on the San Antonio convention, stated that for the first time in the 74 years' history of the Institute the meetings were for the smaller practitioner. Mr. Wilson prophesied a a continuance of this attitude.

Roland E. Borhek, Tacoma, related graphic and humorous experiences in obtaining a full fee for services rendered. He stated that the low-fee man sets the value on his own services.

TACOMA SOCIETY OF ARCHITECTS

"Hobbies" was the subject of a talk given by Silas E. Nelsen before the Tacoma Society of Architects at the noon meeting September 28. His idea of a hobby was something entirely different from the regular occupation, but still an activity constructive in purpose. Mr. Nelsen's hobby, for

PASATIEMPO GUEST HOUSE

Thomas D. Church, A. S. L. A.
Landscape Architect

Clarence A. Tantau
Architect

LOOKING INTO THE FUTURE

MISS Marion Hollins, in creating the beautiful Pasatiempo Country Club Estates overlooking Santa Cruz, built with a permanence characteristic of her activities.

A large California Live Oak (Quercus Agrifolia) softens and shades the Guest House front and provides a quiet and shady patio for the Club's Tea Garden. Mr. Thomas D. Church, the landscape architect, in order to carry out his plan to brick and grade the terrace, yet preserve the life and health of this very essential oak, arranged for an installation of the famous Davey Root System.

Landscape architects and architects have realized in the past, that fills and hard surface coverings exclude air from tree roots and that in cutting trenches for foundations, drains and pipes, tree roots are severed, thereby endangering the tree's life or retarding growth.

Davey Root Systems placed in the root area of the tree provide air, food and water, the natural elements so necessary for root growth and yet allow the greatest of latitude in building.

Telephone or write our nearest office and our representative will give you a complete report not only on your problem, but its cost as well without any obligation.

DAVEY TREE SURGERY CO., LTD.

923 Seventh Street	972 Russ Building	1103 Story Building	430 Pacific Southwest Building
FRanklin 6891	SUtter 3377	TUcker 1929	WAkefield 3006
SAN DIEGO, CALIF.	SAN FRANCISCO	LOS ANGELES	PASADENA, CALIF.

HAZARD HELPS THE COMING GENERATIONS

The Chicago Lying-in Hospital and Dispensary. Architects: Schmidt, Garden and Erikson. General Contractor: H. B. Barnard. Electrical Contractor: Lab Electric Company.

Is there any hospital more important than a maternity institution where coming generations are helped into a waiting world? Is there any place where dependable light is more important than in the delivery room of a lying-in hospital? Can you name a use for electric wire and cable where more depends upon its utter reliability? In the magnificent new Chicago Lying-in Hospital and Dispensary, Hazard Standard 30% building wire is being installed throughout. By selecting a recognized brand with an established record of reliable performance to recommend it, by choosing the highest quality (30%) of that proven Hazard brand, the builders have insured that nothing will be left undone to give light to the coming generations as they arrive out of the "everywhere" and face the "here."

Hazard Insulated Wire Works

Division of The Okonite Company

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Chicago	Boston	Los Angeles
Philadelphia	Atlanta	Seattle
Pittsburgh		Dallas

instance, is boats, which he illustrated in his recent pursuit of Moby Dick. It was revealed that another Viking member of the society, George Ekvall, has a penchant for marine activity.

Agitation for a study of Puget Sound regional problems is rife among Tacoma architects. The development of the Columbia Basin and its connection by tunnel with Puget Sound terminals is one of the points of the program.

The society is regularly holding sketch competitions among draftsmen.

WASHINGTON STATE SOCIETY

Delegates E. Glen Morgan and Lawrence Hauser, both of Seattle, gave reports on the proceedings at the Northwest Building Industry Conference, held at Spokane in mid-September, before the monthly session of the Washington State Society of Architects at the Hotel Gowman, Seattle, October 8. Plans for the Round Table Conference of Architects, scheduled for Wednesday noons at the Daniel Huntington lunch room in the Northern Life Tower, were discussed. John S. Hudson wielded the gavel and Oscar F. Nelson read the minutes.

PRODUCERS' COUNCIL DINNER

On Monday, December 7, the Producers' Council of Northern California will hold their second joint meeting with San Francisco and East Bay architects. The meeting will take the form of a dinner, to be followed by an entertaining program and a talk by A. E. Lawrence of the National Lead Company of California.

Mr. Lawrence will take as his subject, "Color in Industry and in the Home." During his talk he will give practical demonstrations showing the use of color both in pigments and in illumination. Mr. Lawrence is recognized as one of the leading color authorities in the West, and his talk should prove not only interesting but highly educational.

A dinner will be served in the dining room of the Engineers' Club at 6 p. m. G. R. Kingsland, governor of the Producers' Council Club of Northern California, will preside, while Steele L. Winterer promises some unique entertainment.

ELECTS NEW OFFICERS

At a meeting of the Alameda County Society of Architects the following officers were installed: William Schirmer, president; Morton Williams, vice-president; W. R. Yelland, secretary and treasurer. A model of an Oakland civic center, which the society is endeavoring to establish, has been placed on exhibition in the Oakland public library.

BOOK REVIEWS

By Edgar N Kierulff

SOUTHERN ARCHITECTURE ILLUSTRATED. Edited by Southern Architect & Building News. Foreword by Lewis E. Crook, Jr., A. I. A. Introduction by Dwight James Baum, A. I. A. Published by Hammam Publishing Co., Atlanta, Georgia.

Beyond the foreword and introduction, there is no text connected with this book of exquisite photographs of America's finest old Southern houses. The book needs no text; each picture is illustrated and text in itself. There are more than two hundred and fifty plates and plans of the outstanding country and town houses of the South, with the addition of a few of the more notable modern homes in Florida.

To the residence architect, this book ought to be an inspiration and a proof that traditionally, residence architecture in America is sound and has, for a comparatively new country, as fine a back ground as might well be asked for.

SCHOOL VENTILATION (Principles and Practices). Final contribution of the New York Commission on Ventilation. Published by the Bureau of Publications, Teacher's College, Columbia University, New York. Price $1.00.

A small book containing sixty-eight chapters on the increasing and important subject of ventilation in schools. Findings of the first New York Commission of 1923 are given, as well as legislative control of school ventilation.

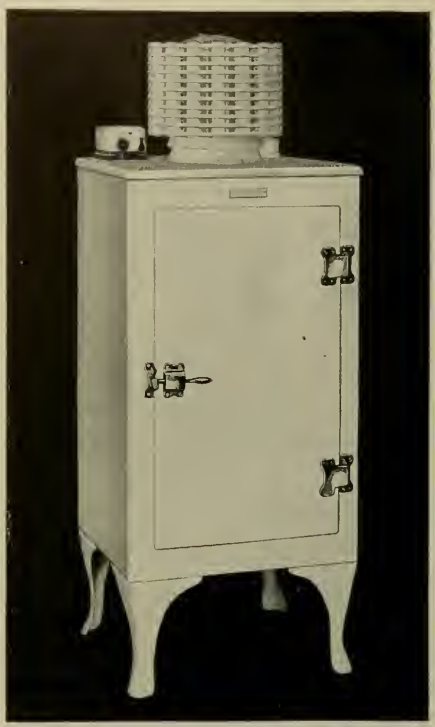
Among some of the interesting titles of chapters may be noted the following: Studies on Body Radiation and Drafts; Economic Aspects of Gravity and Fan Ventilation; Unsolved Problems of Ventilation; The Field for Fan Ventilation.

NOTES OF THE TRADE

The Diamond Electric Company, Pacific Coast subsidiary of the Square D Electric Company, has just put on the market the Square D Calculator, which computes all interior and conduit wiring problems and will figure any one of four items: ampers, feet of wire, size of wire and percentage drop.

The Code Electric Products Corporation, 1341 Englewood Avenue, Philadelphia, announces a new Meter Connection Block, and other switch panels, cabinets and meter test switches.

REFRIGERATION SATISFACTION PERMITS NO COMPROMISE WITH QUALITY



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GENERAL ELECTRIC

ALL STEEL REFRIGERATOR

The L.H. Bennett Company.

Northern California and Nevada Distributor
Rialto Building, San Francisco

SISALKRAFT cures concrete —even pitched roof slabs

REG U S. PAT. OFF.

THE application of Sisalkraft for curing and protecting floors, ramps, stairs and sidewalks is common. Its use on pitched roof slabs as illustrated is a little unusual but none the less practical. Sisalkraft is laid in 22 inch strips between form dividers.

Any slab cured under Sisalkraft will be stronger, denser and longer lived. The curing is positive and automatic because the evaporation of the mixing water is retarded enough to permit complete hydration.

On floors and sidewalks particularly, protection is almost as important as the cure. Sisalkraft provides both at the same time and at a single cost. The non-elastic unspun sisal reenforcing gives Sisalkraft the strength necessary to stand the abuse received in this service.

Sisalkraft comes in rolls 3, 4, 5, 6 and 7 ft. wide. Ask for our special folder on concrete curing or get samples from the local dealer.

THE SISALKRAFT CO.

205 W. Wacker Drive (*Canal Station*), Chicago, Ill.
55 New Montgomery Street, San Francisco, Calif.

A & E 11 Gray

The Chicago Belting Company, 113 North Green Street, Chicago, has issued information on the New Rockwood Drive for compressors, ice machines, heating and ventilating systems. This new drive claims to consume less power and to be a most efficient short-center belt drive.

A folder describing a new product of the Inland Steel Company, First National Bank Building, Chicago, has lately been issued by that company. The product in question is called the new Inland 4-Way Floor Plate, which is non-skid in four directions, whence it takes its name.

The Mundet Cork Corporation announces the removal of the New York office from 461 Eighth Avenue to 450 Seventh Avenue, New York City. This firm has the twenty-ninth floor of the Nelson Tower at 7th Avenue and 34th Street.

BERKELEY RESIDENCE

John E. Dinwiddie, 525 Market Street, San Francisco, is preparing plans for a two story English frame and stucco residence for a Berkeley client. The estimated cost is $8000.

UNIVERSITY OF WASHINGTON

A. H. Albertson, Northern Life Tower, Seattle, has been commissioned to prepare plans for a new law school building on the campus of the University of Washington, at cost of $400,000.

MILLS COLLEGE DORMITORY

Plans have been completed for a new dormitory at Mills College and the trustees will authorize construction of the building this winter. W. H. Ratcliff, Jr., is the architect.

YEON BUILDING IMPROVEMENTS

Improvements costing $150,000 are contemplated to the Yeon Building, Portland, Oregon, from plans by De Young, Rosenberg & Moscowitz of Portland.

COMMISSIONED ARCHITECT

John J. Donovan, Oakland, has been commissioned to prepare plans for a new post office building at Marysville, Yuba County, California, estimated to cost $150,000.

Estimator's Guide

Giving Cost of Building Materials, Wage Scale, Etc.

Amounts quoted are figuring prices and are made up from average quotations furnished by material houses to three leading contracting firms of San Francisco.

This month—Note All building materials are stiffening in price. Better prices are being obtained on contracts.

All prices and wages quoted are for San Francisco and the Bay District. There may be slight fluctuation of prices in the interior and southern part of the state. Freight cartage, at least, must be added in figuring country work.

Overtime in wage scale should be credited with time and a half, Sunday and holidays double.

Bond—1½% amount of contract.

Brickwork—

Common, $31 to $36 per 1000 laid, (according to class of work).
Face, $70 to $90 per 1000 laid, (according to class of work).
Brick Steps, using pressed brick, $.90 lin. ft.
Brick Walls, using pressed brick on edge, 60c sq. ft. (Foundations extra.)
Brick Veneer on frame buildings, $.80 sq. ft.
Common, f. o. b. cars, $14.00 plus cartage.
Face, f. o. b. cars, $45.00 per 1000, carload lots.

HOLLOW TILE FIREPROOFING (f.o.b. job)

3x12x12 in.	$ 68.00 per M
4x12x12 in.	76.50 per M
6x12x12 in.	105.00 per M
8x12x12 in.	170.00 per M

HOLLOW BUILDING TILE (f.o.b. job) carload lots).

8x12x5½	$76.50
6x12x5½	59.50

Composition Floors — 18c to 30c per sq. ft. In large quantities, 18c per sq. ft. laid.
Durafiex Floor—23c to 30c sq. ft.
Rubber Tile—55c per sq. ft.
Terazzo Floors—50c to 60c per sq. ft.
Terazzo Steps—$1.50 lin. ft.
Mosaic Floors—80c per sq. ft.

Concrete Work (material at San Francisco bunkers) — Quotations below 2000 lbs. to the ton.

No. 3 rock, at bunkers.....$1.65 per ton
No. 4 rock, at bunkers..... 1.65 per ton
Eliot pea gravel, at bnkrs. 1.75 per ton
Washed gravel, at bunkrs 1.75 per ton
Eliott top gravel, at bnkrs. 1.75 per ton
City gravel, at bunkers .... 1.40 per ton
River sand, at bunkers..... 1.50 jer ton
Delivered bank sand..... 1.10 cu yd.

Note—Above prices are subject to discount of 10c per ton on invoices paid on or before the 15th of month, following delivery.

SAND

Del Monte, $1.75 to $3.00 per ton.
Fan Shell Beach (car lots, f. o. b. Lake Majella), $2.75 to $4.00 per ton.
Cement, $2.24 per bbl. in paper sks.
Cement (f.o.b. Job, S. F.) $2.44 per bbl.
Cement (f.o.b. Job, Oak.), $2.64 per per bbl.
Rebate of 10 cents bbl. cash in 15 days.
Medusa "White" .....$ 8.50 per bbl.
Forms, Labors average 22.00 per M.
Average cost of concrete in place, exclusive of forms, 28c per cu. ft.
4-inch concrete basement floor.....13c to 14c per sq. ft.
4½ inch Concrete Basement floor .....13c to 14c per sq. ft.
2-inch rat-proofing....6½c per sq. ft.
Concrete Steps.....$1.10 per lin. ft.

Dampproofing and Waterproofing—

Two-coat work, 18c per yard.
Membrane waterproofing—4 layers of saturated felt, $5.00 per square.
Hot coating work, $1.80 per square.
Medusa Waterproofing, 15½c per bbl, San Francisco Warehouse.

Electric Wiring — $2.75 to $8.50 per outlet for conduit work (including switches).
Knob and tube average $2.25 to $5.00 per outlet, including switches.

Elevators—

Prices vary according to capacity, speed and type. Consult elevator companies. Average cost of installing an automatic elevator in four-story building, $2450; direct automatic, about $2400.

Excavation—

Sand, 40 cents; clay or shale, 90c per yard.
Teams, $10.00 per day.
Trucks, $20 to $25 per day.
Above figures are an average without water. Steam shovel work in large quantities, less; hard material, such as rock, will run considerably more.

Fire Escapes—

Ten-foot balcony, with stairs, $65.00 per balcony.

Glass (consult with manufacturers)—

Double strength window glass, 15c per square foot.
Quartz Lite, 50c per square foot.
Plate 80c per square foot.
Art, $1.00 up per square foot.
Wire (for skylights), 27c per square foot.
Obscure glass, 25c square foot.
Note—Add extra for setting.

Heating—

Average, $1.60 per sq. ft. of radiation, according to conditions.

Iron—Cost of ornamental iron, cast iron, etc., depends on designs.

Lumber (prices delivered to bldg. site)

Common, $24.00 per M (average).
Common O. P. select, average, $28.00 per M.

1 x 6 No. 3—Form Lumber	$15.00 per M
1 x 4 No. 1 flooring VG	58.00 per M
1 x 4 No. 2 flooring	50.00 per M
1 x 4 No. 3 flooring	40.00 per M
1 x 6 No. 2 flooring	52.00 per M
1¼x4 and 6 No. 2 flooring	60.00 per M

Slash grain—

1 x 4 No. 2 flooring	$35.00 per M
1 x 4 No. 3 flooring	32.00 per M
No. 1 common run to T. & G.	28.00 per M
Lath	5.00 per M

Shingles (add cartage to prices quoted)—

Redwood, No. 1	$ .85 per bdle.
Redwood, No. 2	.65 per bdle.
Red Cedar	.85 per bdle.

Hardwood Flooring (delivered to building)—

13-16x3¼" T & G Maple	$105.00 M ft.		
1 1-16x2¼" T & G Maple	135.00 M ft.		
⅞x3½ sq. edge Maple	122.50 M ft.		
	13-16x2¼" T&G	⅜x2" T&G	5-16x2" Sq.Ed.
Clr. Qtd. Oak	$175.00 M	$125.00 M	$158 M
Sel. Qtd. Oak	115.00 M	95.00 M	110 M
Clr. Pla. Oak	110.00 M	87.00 M	95 M
Sel. Pla. Oak	106.00 M	68.00 M	82 M
Clear Maple	110.00 M	82.00 M	

Laying & Finishing 16c ft. 15c ft. 13c ft.
Wage—Floor layers, $9.00 per day.

Building Paper—

1 ply per 1000 ft. roll	$2.80
2 ply per 1000 ft. roll	4.2[illegible]
3 ply per 1000 ft. roll	6.50
Sisalkraft, 500 ft. roll	5.50
Sash cord com. No. 7	$1.00 per 100 ft.
Sash cord com. No. 8	1.10 per 100 ft.
Sash cord spot No. 7	1.50 per 100 ft.
Sash cord spot No. 8	1.90 per 100 ft.

Sash weights cast iron, $45.00 ton
Nails, $2.35 base.
Belgian nails, $2.60 base.

Millwork—

O. P. $75.00 per 1000. R. W., $80.00 per 1000 (delivered).
Double hung box window frames, average, with trim, $5.00 and up. each.
Doors, including trim (single panel, 1¾ in. Oregon pine) $6.00 and up, each.
Doors, including trim (five panel, 1¾ in. Oregon pine) $5.75 each.
Screen doors, $3.50 each.
Patent screen windows, 20c a sq. ft.
Cases for kitchen pantries seven ft. high, per lineal ft., $4.25 each.
Dining room cases, $5.50 per lineal foot.
Labor—Rough carpentry, warehouse heavy framing (average), $11.00 per M.
For smaller work, average, $22 to $30 per 1000.

Marble—(Not set), add 50c to 65c per ft. for setting.

Alaska	$1.40 sq. ft.
Columbia	1.40 sq. ft.
Golden Vein Yule Colo.	1.70 sq. ft.
Pink Lepanto	1.50 sq. ft.
Italian	2.00 sq. ft

NOTE — Above quotations are for ⅞ inch wainscot in large slabs f.o.b. factory. Prices on all other classes of work should be obtained from the manufacturers.

Floor Tile—Set in place.

Verde Antique	$2.50 sq. ft.
Tennessee	1.50 sq. ft.
Alaska	1.35 sq. ft.
Columbia	1.45 sq. ft.
Yule Colorado	1.45 sq. ft.
Travertine	1.60 sq. ft

Painting—

Two-coat work	27c per yard
Three-coat work	36c per yard
Cold Water Painting	8c per yard
Whitewashing	4c per yard

Turpentine, 80c per gal, in cans and 65c per gal. in drums.
Raw Linseed Oil—73c gal. in bbls.
Boiled Linseed Oil—76c gal. in bbls.
Medusa Portland Cement Paint, 20c per lb.

Carter or Dutch Boy White Lead in Oil (in steel kegs).

Per Lb.

1 ton lots, 100 lbs. net weight 11¾c
500 lb. and less than 1 ton lots 12c
Less than 500 lb. lots 12½

Dutch Boy Dry Red Lead and Litharge (in steel kegs).

1 ton lots, 100 lb. kegs, net wt. 11¾c
500 lb. and less than 1 ton lots 12c
Less than 500 lb lots 12½c

Red Lead in Oil (in steel kegs)

1 ton lots, 100 lb. kegs, net wt. 13¼c
500 lb. and less than 1 ton lots 13½c
Less than 500 lb. lots 14c
Note—Accessibility and conditions cause wide variance of costs.

Patent Chimneys—

6-inch	$1.00 lineal foot
8-inch	1.50 lineal foot
10-inch	1.85 lineal foot
12-inch	2.10 lineal foot

Pipe Casings — 12" long (average), $8.00 each. Each additional inch 10c.

Plastering—Interior—

	Yard
1 coat, brown mortar only, wood lath	$0.36
2 coats, lime mortar hard finish, wood lath	.45
2 coats, hard wall plaster, wood lath	.50
3 coats, metal lath and plaster	.90
Keene cement on metal lath	1.10
Ceilings with ¾ hot roll channels metal lath	.65
Ceilings with ¾ hot roll channela metal lath plastered	1.30
Shingle partition ¾ channel lath 1 side	.60
Single partition ¾ channel lath 2 sides 2 inches thick	2.00
4-inch double partition ¾ channel lath 2 sides	1.20
4-inch double partition ¾ channel lath 2 sides plastered	2.25

Plastering—Exterior—

	Yard
2 coats cement finish, brick or concrete wall	$ .90
2 coats Atlas cement, brick or concrete wall	1.15
3 coats cement finish No. 18 gauge wire mesh	1.60
3 coats Medusa finish No. 18 gauge wire mesh	2.90

Wood lath, $4.00 per 1000.

2.5-lb. metal lath (dipped)	.15
2.6-lb. metal lath (galvanized)	.18
3.4-lb. metal lath (dipped)	.20
3.4-lb. metal lath (galvanized)	.25

¾-inch hot roll channels, $45 per ton.

Hardwall plaster, $15.40 ton; $12.95 in paper sacks (rebate 15c sack).
Finish plaster, $16.40 ton; in paper sacks, Dealer's commission, $1.00 off above quotations.
$13.85 (rebate 10c sack).
Lime, f.o.b. warehouse, $2.25bbl.; cars, $2.15
Lime, bulk (ton 2000 lbs.), $16.00 ton.
Wall Board 5 ply, $43.00 per M.
Hydrate Lime, $19.50 ton.

Composition Stucco—$1.35 to $1.75 per sq. yard (applied).

Plumbing—

From $58.00 per fixture up, according to grade, quantity and runs.

Roofing—

"Standard" tar and gravel, $5.00 per square for 30 squares or over.
Less than 30 squares, $5.25 per sq.
Tile, $17.00 to $30.00 per square.
Redwood Shingles, $11.00 per square in place.
Cedar Shingles, $10 sq. in place.
Recoat, with Gravel, $3.00 per sq.

Sheet Metal—

Windows—Metal, $1.80 a sq. foot.
Fire doors (average), including hardware, $2.00 per sq. ft.

Skylights—

Copper, $1.00 sq. ft. (not glazed).
Galvanized iron, 25c sq. ft. (not glazed).

Stone—

Granite, average, $7.00 cu. foot in place.
Sandstone, average Blue, $3.50; Boise, $2.60 sq. ft. in place.
Indiana Limestone, $2.60 per sq. ft. in place.

Store Fronts—

Copper sash bars for store fronts, corner, center and around sides, will average 70c per lineal foot.
Note—Consult with agents.

Steel Structural—$85 per ton (erected). This quotation is an average for comparatively small quantities.
Light truss work higher; plain beam and column work in large quantities, less.
Cost of steel for average building (erected), $83.00 to $90.00 per ton.

1931 WAGE SCHEDULE FOR SAN FRANCISCO BUILDING TRADES

Fixed by the Impartial Wage Board
Indorsed by Architects, General and Sub-Contractors, Municipal, State and Federal Governments.

Craft	Journeymen Mechanics
Asbestos workers	$ 8.00
Bricklayers	11.00
Bricklayers' bodcarriers	7.00
Cabinet workers, (shop)	7.50
Cabinet workers, (outside)	9.00
Carpenters	9.00
Cement finishers	9.00
Electric workers	9.00
Electrical fixture hangers	8.00
Elevator coostructors	10.00
Elevator helpers	7.00
Engineers, portable and hoisting	9.00
Glass workers	8.50
Hardwood floormen	9.00
Housemovers	8.00
Housesmiths, arch. iron, skilled all branches	9.00
Housesmiths, arch. iron, not skilled all branches	8.00
Housesmiths, reinforced coocrete, or rodmen	9.00
Iron workers (bridge & structural) including engineers	11.00
Laborers, building (6-day week)	5.50
Lathers, channel iron	10.00
*Lathers, all other	8.50
Marble setters	10.00
Marble helpers	6.00
Marble cutters and copers	8.00
Marble bed rubbers	7.50
Marble polishers and finishers	7.00
Millmen, planing mill department	7.00
Millmen, sash and door	6.00
Millwrights	8.00
Model makers	10.00
Model casters	9.00
Mosaic and Terrazzo workers	9.00
Mosaic and Terrazzo helpers	6.00
Painters	9.00
Painters, varnishers and polishers (shop)	7.50
Painters, varnishers and polishers (outside)	9.00
Pile drivers and wharf builders	9.00
Pile drivers engineers	10.00
Plasterers	11.00
Plasterers' bodcarriers	7.50
Plumbers	10.00
Roofers, composition	8.00
Roofers, all others	8.00
Sheet metal workers	9.00
Sprinkler fitters	10.00
Steam fitters	10.00
Stair builders	9.00
Stone cutters, soft and granite	8.50
Stone setters, soft and granite	9.00
Stone carvers	8.50
Stone derrickmen	9.00
Tile setters	10.00
Tile helpers	6.00
Auto truck drivers, less than 2500 lbs.	5.50
Auto truck drivers, 2500 to 4500 lbs.	6.00
Auto truck drivers, 4500 to 6500 lbs.	6.50
Auto truck drivers, 6500 lbs. and over	7.00
General teamsters, 1 horse	5.50
General teamsters, 2 horses	6.00
General teamsters, 4 horses	6.50
Flow teamsters, 4 horses	6.50
Scraper teamsters, 2 horses	6.00
Scraper teamsters, 4 horses	6.00

*On wood lath if piece rates are paid they shall be not less than such an amount as will guarantee, on an average day's production of 1600 lath, the day wage set forth.

Eight hours shall constitute a day's work for all Crafts except as otherwise noted.

Plasterer's bodcarriers, bricklayers' bodcarriers, roofers, laborers, aod engineers, portable and hoisting, shall start 15 minutes before other workmen, both at morning and noon.

Five and one-half days, consisting of eight hours on Monday to Friday inclusive, and four hours on Saturday forenoon shall constitute a week's work.

Overtime shall be paid as follows: For the first four hours after the first eight hours, time and one-half. All time thereafter shall be paid double time. Saturday afternoon (except laborers), Sundays from 12 midnight Friday, and Holidays from 12 midnight of the preceding day shall be paid double time. On Saturday laborers, building, shall be paid straight time.

Where two shifts are worked in any twenty-four hours shift time shall be straight time. Where three shifts are worked, eight hours pay shall be paid for seven hours oo the second and third shifts.

All work shall regularly be performed between the hours of 8 A. M. and 5 P. M., provided, that in emergencies or where premises cannot be vacated for work by mechanics until the close of business men then reporting for work shall work at straight time; but any work performed after midnight shall be paid time and one-half except on Saturdays, Sundays, and holidays, when double time shall be paid.

Recognized holidays to be New Year's Day, Decoration Day, Fourth of July, Labor Day, Admission Day, Thanksgiving Day and Christmas Day.

Men ordered to report for work, for whom no employment is provided, shall be entitled to two hours pay.

PORTLAND CEMENT RESEARCH

Dr. Edward R. Weidlein, director Mellon Institute of Industrial Research, Pittsburgh, Pa., has announced the foundation of an Industrial Fellowship by the Green Bag Cement Company of Pittsburgh, subsidiary of the Davison Coke and Iron Company. The investigational work of this Fellowship, which will be carried on by Raymond C. Briant, will be concerned with studies of the chemical and physical properties of Portland cement and with the development of certain new cement products.

Mr. Briant has come to Mellon Institute from the United States Bureau of Standards, Washington, D. C., where, during the past several years, he has been engaged in research under the auspices of the Portland Cement Association.

NEW ARCHITECTS' SOCIETY

Julius A. Zittel is the first president of the newly organized Spokane Society of Architects; Archibald Riggs, vice-president and Harold C. Whitehouse, second vice-president, with Ogden F. Beeman, secretary-treasurer. The organization is endorsing the work of the Spokane construction and industries committee of the Chamber of Commerce "Local Men for Local Work."

SALINAS HOTEL APARTMENTS

The Franciscan Hotel at Salinas will undergo extensive alterations from plans by the H. H. Winner Company, 580 Market Street, San Francisco. The entire interior will be modernized. About $30,000 will be expended on the improvements.

ALAMEDA FACTORY GROUP

It is expected that construction will be underway shortly on the Owens-Illinois Glass Company plant in Alameda. The plans are being prepared by Mills. Rhines, Bellman & Nordhoff, engineers, of Toledo, Ohio.

MEDICAL SCHOOL CLINIC

A six story Class A medical school clinic is to be built at Second and Parnassas Avenue, San Francisco, at a cost of $600,000. The clinic is for the Regents of the University of California. W. C. Hays is preparing the plans.

UNIVERSITY GYMNASIUM

Construction is underway on the new million dollar gymnasium at the University of California, Berkeley. Bids were received on November 7th. Plans for the building were prepared by George W. Kelham, University architect.

Entrance Vestibule, Shell Oil Building, San Francisco
Walls of French Botreville Marble
GEO. W. KELHAM, *Architect*
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COMPETITION PROCEDURE

Prepared by the Committee on Ethics and Competitions, A. I. A.

THE Committee on Public Information, the American Institute of Architects, asks every member to read carefully the statement prepared by the Committee on Ethics and Competitions. The actions of architects in dealing with public committees are of great importance not only to themselves, but also to the standing of the entire profession. The officers believe this matter is of prime importance and desire to assist members in their relations with public committees.

It is evident that there is some confusion in the minds of members as to what constitutes a competition and how best to deal with a building committee when competitive sketches are invited.

It is clear that the public work controlled by school building committees and other similar public authorities is of vital interest to the profession, and it is important that the actions of members should be consistent with the policies expressed in the published statements of the profession. Otherwise, only confusion can result in the minds of such committees and delay in their acceptance of sound methods for the selection of architects for public work.

"A competition exists when two or more architects prepare sketches at the same time for the same project." This quotation from the A. I. A. Code means very simply what it says. The actions of a building committee or members thereof are not controlling factors. A competitive situation is created solely by the action of the architects who, under whatever circumstances, submit sketches simultaneously for a given project. They are frequently invited by various individuals without authority. Submission under such invitation is always dangerous and likely to lead to confusion. If sketches are to be submitted they should be promptly withdrawn by all architects involved as soon as it is ascertained that more than one sketch has been submitted.

Even though an unauthorized competition is insisted upon by a Town Building Committee and information is obtained that certain — generally unnamed — architects intend to submit sketches, members of the Society may and should consult with the Town committee, present their qualifications for the work, including plans and photographs of executed work, and give the committee any general advice they see fit in regard to their problem and the procedure under which it should be studied to bring about a desirable solution.

A committee having invited the submission of sketches may be unable or unwilling to withdraw the invitations. In most cases it will be found that the members invited will have separately informed the committee that they do not submit sketches in that manner. In most cases, also, their explanation of the Institute competition code finds ready acceptance by the committee as reasonable, the submission of a sketch is left optional and the standing of the architect is not hurt, but rather improved by his refusal to submit a sketch.

The Committee on Ethics and Competitions is convinced that the members of such building committees are generally endowed with common sense, and while at the outset they are naturally unfamiliar with the accepted procedures of the profession, they are easily convinced of the soundness of those methods of procedure which the society endorses and are grateful for helpful suggestions looking to the businesslike solution of their building problem.

If architects approach such committeemen on the theory of playing a politic game and doing what they are asked to do in order to ingratiate themselves with the committee they will only tend to support and continue the unbusinesslike, unwise procedures so often involved in the votes of town meetings. If, however, architects will approach such committees as if they were reasonably intelligent persons, capable of understanding the simple, businesslike methods for the selection of an architect that the Institute has consistently advocated, they will find that their standing is enhanced in the eyes of the committee, that their sound advice is appreciated, and in most cases will be accepted and followed, and that they will stand a better chance of ultimate selection for the work than their more expediently-inclined competitors. This statement is based upon actual experience, not mere theory.

At the outset, most committeemen may feel a natural inclination to receive a number of sketches from which to select the one they prefer. Most such committeemen will, however, admit, if faced with the blunt question, that they are really not qualified to determine which of the sketches is the best. If they do accept this idea they will inevitably agree on the desirability of the direct selection of their architect, or, if for any reason a competition is deemed necessary, they will see the need of having it carefully administered and expertly judged.

The following are instances within the recent experience of the committee on Ethics and Competitions:

A town building committee invited several architects to submit sketches on which to base the

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selection of an architect. Upon receipt of a letter from the Chapter explaining desirable procedure, the invitation was withdrawn and the committee proceeded to direct selection, from among the architects being considered.

In another recent case the committee was unwilling to rescind its invitation for submission of sketches, but left it optional, and after conferring with the various architects the committee appointed one of those who did not submit sketches.

Some years ago a town was preparing to hold an unregulated competition for a high school building. Members of the town's finance committee became convinced, by arguments presented by members of the Institute, that the committee of laymen would have no ability to judge wisely the drawings that might be submitted, and brought about a vote by the town, appointing a committee with a preliminary appropriation of $1,500, with which to secure architectural service for the preparation of sketch plans and estimates on which to base a final appropriation. The direct selection of an architect with whom the work out a solution of the problem, becomes the first duty of such a committee. This procedure permits the solution to be developed in close cooperation with the school authorities, which is, of course, essential to any wise solution.

With such an appropriation the architect is reasonably remunerated for his preliminary service if the town should then fail for any reason to make the final appropriation. In many cases, however, a building committee, ready to make direct selection of an architect for preliminary service, is provided with inadequate funds, or even no funds at all. In such cases an architect selected by them for this preliminary service should be willing to pay them, regardless of payment, provided the committee agrees to receive no other sketches, and pledges him their support for appointment as architect if the building is authorized, it being clearly understood, however, that the committee generally has no power to guarantee such appointment.

There is no principle of practice that prevents an architect under such circumstances from furnishing such preliminary service without compensation or for such nominal fee as the committee's appropriation may warrant, and the Committee on Ethics and Competitions believes it is desirable for members to help such committees to carry out the obligations put upon them by the town vote, if selected by the committee for this service, even if forced to do so without remuneration other than the probability of ultimate appointment when the final appropriation is voted by the town.

The Committee on Ethics and Competitions issues this statement in a desire to make clear to members what action should be taken by them, when brought into contact with such situations, that shall be consistent with the requirements of the Competition Code and the principles of professional practice as approved by the Institute.

STATE BUILDERS ELECT

H. C. Anderson of Berkeley, was elected president of the California State Builders Exchange for the coming year at the annual convention in San Luis Obispo, September 25 and 26. Ralph Homann of Los Angeles, was chosen vice-president; Frederick Sanford of Santa Ana, secretary and Lou B. Webster of Los Angeles, treasurer. Officers are selected by the board of directors from its own membership.

Six new directors were elected for the coming year. The full board, including members holding over, consists of the following:

Ralph E. Homann, Los Angeles.
H. L. Sweeney, Santa Barbara.
W. H. George, San Francisco.
L. S. Peletz, Stockton.
P. M. Sanford, Richmond.
C. M. Gilbert, Orange County.
C. W. Pettifer, Long Beach.
G. A. Graham, Bakersfield.
William T. Loesch, Pasadena.
C. E. McMullin, Fresno.
H. C. Anderson, Berkeley.

REVISED BUILDING CODE

Jean L. Vincenz, City Commissioner of Public Works, Fresno, has introduced a revised edition of the uniform building code to the City Council for passage.

The new code was prepared by the Pacific Coast Building Officials' Conference to replace the old 1927 code under which the city has been operating.

Vincenz said that although there are no radical changes in the new law, the old code has been revised so as to conform to more modern developments in industry, particularly in respect to steel construction.

Probably the most radical change centers around plastering. Plastering under the revised code must be of uniform thickness and applied in such a manner that building inspectors may easily detect any violations of the code. The old code hindered inspectors to such an extent that it was possible for plasterers to build up the material around the edges but to dish it in the center so that less plaster is used.

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WAGE BOARD HIGHLIGHTS

Following are highlights of the California Industrial Association's Wage Board findings:

Present scale to continue in effect during 1932.

Official working week to be five days, effective Jan. 1, 1932.

Working day to continue at eight hours.

Overtime to be paid at the rate of time and a half.

Work on Saturdays, Sundays and holidays to be paid at double rates.

Actual emergency and repair work may be performed outside regular working hours in eight-hour shifts.

Employment of improvers or helpers, except by official designation, is a violation of the award.

Ratios of journeymen and apprentices to be worked out co-operatively.

Recommendation that steps be taken for adoption of an official six-hour day.

The board named recognized holidays as New Year's Day, Decoration Day, July 4, Labor Day, Admission Day, Thanksgiving and Christmas. Men ordered to report for work, for whom no employment is provided, shall be entitled to two hours' pay.

The report pointed out that unlike the four previous boards, the present impartial wage board was created "through the co-operation of official representatives of a majority of the organized building workers and the Industrial Association."

The report was signed by Prof. Willard E. Hotchkiss of Stanford University, chairman; Will J. French, director of the State Department of Industrial Welfare, and Henry J. Brunnier, C. E., San Francisco.

BRIDGE MODELS

One-hundredth the size of the actual structure to be built, but complete in every detail, miniature bridges are being constructed by scientists as models for the gigantic San Francisco-Oakland Bay Bridge. From these models will be chosen the type of structure to cross San Francisco Bay.

This is the announcement of Charles H. Purcell, State Highway Engineer, in making public the fact that Professor George E. Beggs of Princeton University, one of the foremost bridge experts in the world, had consented to work with the University of California at Berkeley in constructing models.

The effect of all loads, wind, temperature— indeed all the elements will be tested with the models.

Every detail of the mammoth bridge will be put into the structural models of the several possible types of design; even the same kind of material to be used.

Each model will be "loaded" in the same proportion as the full-sized bridge would be, thus permitting the scientists to measure the actual stress upon the structure together with the deflections in temperature ranges.

In this way the safety of the structure is actually proved before it is built.

Dr. Beggs, leading authority on model bridge building, constructed the miniatures for the Mount Hope Bridge.

He is now in California on his Sabbatical year and had planned to take his family on a yacht cruise to Alaska. So interested, however, has he become in the mammoth task of bridging the bay, that he has given up his cruise and is now at work on the bridge models.

WINS PLYM FELLOWSHIP

The Francis J. Plym Fellowship in Architecture has been awarded to Francis J. Heusel. This competition was open to all graduates of the Department of Agriculture, University of Illinois, who are American citizens of good moral character and who were under thirty years of age on the first day of June, 1931. The value of the Fellowship is $1200, to be used in defraying expenses for one year in Europe for the study of architecture. The subject of the program was A Radio Broadcasting Studio.

HOTEL AND BOTTLING WORKS

Harrison B. Traver, 1008 W. Sixth Street, Los Angeles, has been commissioned to prepare plans for a hotel building and a bottling works to be erected on Lincoln Avenue, near the Coast highway, Carlsbad, for the Carlsbad Springs Properties, Ltd. Hugh A. Beaton, president. The hotel will be a two-story structure, 200x75 feet in area, containing shops on the ground floor and fifty hotel rooms, each with private bath, on the second floor. The bottling works will be a one-story structure. Construction will be frame and stucco.

ARMSTRONG CORK PLANT

Preliminary work has started on the 60-acre site at Bay Point, Contra Costa County, for the new manufacturing plant of the Armstrong Cork Company of California, a subsidiary of the Armstrong Cork Company of Lancaster, Pennsylvania. John J. Evans, President of the Company, states that steps are now underway for grading the site and installing gas and water mains, building roads and sidings, and dredging the channel.

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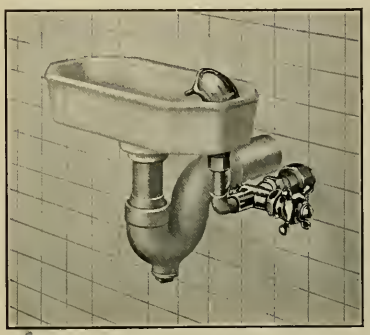

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DRAFTSMEN A BUSINESS BAROMETER

A business barometer for the building industry, which would serve as a guide for business generally, is advocated by Electus D. Litchfield of the New York Chapter of the American Institute of Architects. Such an indicator could be created, he declares, by keeping a monthly check on the number of draftsmen employed by the architects of the country.

"New York City will be faced with a housing shortage in two years," says Mr. Litchfield, outlining his plan to the Architects' Emergency Employment Committee for the Region of New York. "Although the city's population continues to increase, the buildings are growing obsolete. In the building industry, and I suppose it is the same in most industries, depressions cure themselves.

"Today we are perhaps at the zero hour. Return of confidence will be indicated the moment a definite general increase in employment comes into the offices of the architects.

"Now, if monthly reports can be obtained of the number of draftsmen employed by the architects, we will have the most sensitive possibe barometer of the attitude of the public mind. Such a barometer could be taken as an indicator for all industries insofar as the building industry reflects the true nature of business conditions generally.

"To date we have had thermometers which told the business conditions of the past and present, and we have had wind gauges which told just how bad the depression hurricane was, or was going to be, but we have had no barometer which would predict what business weather we were likely to have."

Congress took a definite step toward guarding against future depressions in enacting the Wagner Bill at the last session, according to Mr. Litchfield. This legislation contemplates the planning of public works some years in advance of actual construction so that if an emergency should arise public works activity could begin without delay.

"In the functioning of this Act," Mr. Litchfield points out, "it would be important to have prompt and accurate information as to the state of industry, and particularly the building industry. A sensitive index which would accurately and quickly measure the direction and speed in which the building industry was about to move would be of the greatest general value.

"Such an index could be developed rapidly. To make it nationwide, a unified organization would probably be necessary, but in New York, where all the architects are registered by the State, and a large percentage of them are members of one or the other of the architectural societies, this in-

dex of employed draftsmen can be built up at once."

Architectural leaders in New York, including Stephen F. Voorhees, president of the New York Chapter of the Institute, feel that the Council of Registered Architects of New York would be the appropriate organization to provide the machinery necessary for the index. Senator Wagner has expressed the hope that the plan may be carried out.

"When our leaders sought to relieve the present slump by throwing large amounts of public works into the market of the building and allied industries," said Mr. Litchfield, "they found that months, and even years, of planning and effort were necessary before the work could be actually started. Under the Wagner Bill the plans would be prepared so that public construction could be placed rapidly. The architectural index would be of the greatest value to the commission appointed to carry out the terms of the Act.

"Suppose, for example, that on the index for the section east of the Mississippi, the line should start downward. This would indicate that the building public was experiencing a lack of confidence or a realization of over production. Or, in addition to these causes, the decline might be due to a reduction in the earning power of the United States.

"What is important is that long before the building industry would realize that matters were on the mend, and perhaps even before the actual earnings would show a very apparent increase, the upcurve of the architectural index would be definitely rising owing to a return of confidence upon the par tof the public or to a definite shortage of buildings.

"The activities of the building industry are in a large measure dependent on the financial health of the country. The bankers have been of great assistance to the industry, particularly during the last fifteen years. Most of the large buildings in New York City would never have been constructed had it not been for the courage of great banking firms. What the industry needs today are some financial pioneers. It may be, however, that this aid will come from the Government."

CONSTRUCTION INDUSTRY ORGANIZES

Nineteen groups of the construction industry, with more than 100,000 members, and representing billions in capital, have formed an alliance "to cooperate for the common good of the industry and better to serve the nation," it is announced by the American Institute of Architects.

Robert D. Kohn of New York, president of the Institute, has been chosen general chairman of the

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provisional organization, which will be known as the Construction League, and the scope of which embraces a vast army of workers, including the Building Trades Department of the American Federation of Labor.

The choice of Mr. Kohn, who will hold office for two years, arose, it was explained, from a general desire to place the construction industry under professional leadership. The League will be incorporated in the District of Columbia, and will maintain headquarters in Washington. The number of member associations will eventually be increased to thirty-five.

Other officers have been named as follows:

First vice-chairman, Francis L. Stuart, New York, president of the American Society of Civil Engineers; second vice-chairman, A. P. Greensfelder, St. Louis, president of the Associated General Contractors of America; treasurer, H. H. Sherman, Boston, president of the Producers' Council; general secretary, P. W. Donoghue, Washington, D. C., national president of the National Association of Master Plumbers of the United States.

A joint secretariat will be composed of:

E. J. Harding, Washington, D. C., managing director of the Associated General Contractors of America; E. C. Kemper, Washington, D. C., executive secretary of the American Institute of Architects; L. W. Wallace, Washington, D. C., executive secretary of the American Engineering Council.

Action was taken on the initiative of the Committee on Industrial Relations of the Institute with the approval of the officers of the Associated General Contractors and the Producers' Council. The Council is composed of sixty companies and associations of manufacturers in the field of building materials and appliances with a combined capital of $22,500,000,000.

"An effort is to be made to create a medium for coordinated action within the building industry," said a statement by Mr. Kohn outlining the purposes of the League. "Each member organization will send representatives to periodic conferences, at which reports aimed to improve the public service of the industry will be submitted.

"Matters of great moment to the entire building industry are under way. Some are being promoted by the architects, others by the contractors, and still others by a score or more important professional or trade organizations of the industry. Each is being carried on with very little, if any, support from the other groups.

"The consensus of opinion plainly is that the industry as a whole is ready to follow the leadership of the professional men, and that the various

contractor and trade organizations realize the need of professional leadership. The attitude of the industry is a challenge to the profession of architecture.

"The League, it is believed, should do nationally what has been done in many cities by local building congresses. Many constructive policies are being carried out, but need coordination. These include the apprenticeship work of the building congresses, the movement for better quality in building materials fostered by the Producers' Council, and the attempts by the Associated General Contractors to bring about the pre-qualification of bidders, and to relieve the unemployment emergency.

"Reforms of importance to architects and engineers are being promoted by the associations of plasterers, sheet metal workers, marble quarrymen and dealers, painters, and heating and piping contractors. Another significant program is that of the Electrical Guild of America embracing education, old-age pensions for workers, and unemployment insurance investigations.

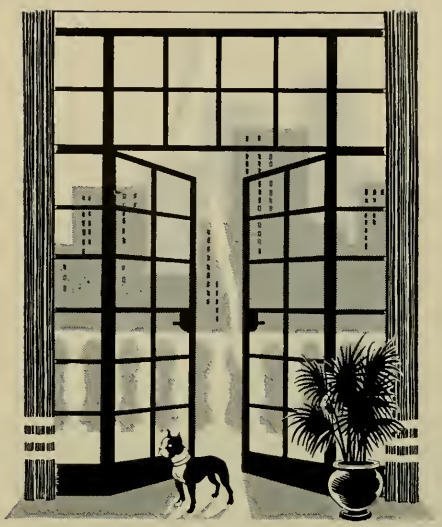
"The plan of cooperation contemplated by the Construction League is designed to achieve something more than merely to advance certain desirable pieces of work being done by one or another group. It is evident that in the process of working together to help these enterprises every group will get a better idea of what its place is in the economy of the industry.

"Through this new relationship, the member associations will be unconsciously making for a clarification of function in the building industry similar to that which developed locally in all of those cities where building congresses have been established.

"Little by little each group will find itself depending on the others for criticism of methods and aims and for support for those of its purposes which meet with common approval. And to secure such approval these purposes cannot be selfish. They must be oriented towards eventual benefit to the public at large."

Committees have been organized by the League, and the following chairmen selected:

Membership, W. G. Luce, New York, representing the Associated General Contractors of America; Plan, Merritt Harrison, Indianapolis, president of the Indiana Building Congress; Employment, Roy V. Wright, New York, president of the American Society of Mechanical Engineers; Correlation, L. K. Comstock, New York, president of the Electrical Guild of America; Research, George I. Ray, Charlotte, N. C., president of the National Association of Sheet Metal Contractors; Merchandizing, A. W. Berresford, New York,



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A Policy Committee has also been formed, its members representing architects, engineers, general contractors, sub-contractors, producers, fabricators, distributors, and labor.

The list of organizations represented in the new combination follows:

American Engineering Council.

American Federation of Labor, Building Department.

American Institute of Architects.

American Institute of Steel Construction.

Associated General Contractors of America.

Contracting Plasterers' International Association.

Electrical Guild of America.

Heating and Piping Contractors National Association.

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National Association of Master Plumbers of the United States.

National Association of Ornamental Iron and Bronze Manufacturers.

National Association of Sheet Metal Contractors.

WESTINGHOUSE ANNOUNCEMENT

The Westinghouse Electric & Manufacturing Company have recently announced the appointment of three members of their executive personnel to take charge of the following departments:

R. R. Davis, for the past twenty-one years Director of Advertising, has been appointed as Manager of Apparatus Advertising at East Pittsburgh. Mr. Davis entered the Westinghouse Company in 1905 and with his new appointment has rounded out twenty-six years of interesting and valuable service.

E. W. Loomis has been appointed as Middle Atlantic District Manager of the Company, with headquarters at Philadelphia. Mr. Loomis has been identified with Westinghouse since 1914.

William F. James has become assistant to the Commercial Vice-President of the Atlantic Division. He was formerly Middle District Manager, entering the employ of the Company in 1909.

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See Our Catalogue in Sweets

THE NEW club rooms of the San Francisco Stock Exchange, Miller and Pflueger, Architects, will be illustrated with some remarkable photographs by Moulin taken especially for this magazine, in the December issue. Carleton M. Winslow, prominent Los Angeles architect, will give his impressions.

GOOD BUILDINGS

Some Recent Contracts Completed

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ADVERTISING THE ARCHITECT

(From *Building*, Australia)

The other evening, the Institute of Architects held a meeting to see what they could do about getting more publicity for the profession. We should like to offer a suggestion.

Walking up George Street, we are all at once arrested by our nose which registers coffee—and nice coffee— and on investigation we find that we are passing a well-known tea and coffee establishment, in the window of which is a chef-like person engaged in presiding over a machine that is roasting coffee beans in rotary containers over a flame. Result, an interested crowd.

Traverse practically any street at all (for the present, at any rate), and one may be initiated into the secret mysteries of chocolate making and dipping or the sponge cakes. Now, surely this scientific mixing, icing, etc., of presents an idea to the Institute. Why not get a couple of good-looking young draughtsmen, rent a shop window—there are plenty of both at present—fit them up with drafting paraphenalia and turn them loose?

⁂

It's not a bad idea, and we think the public would fall for it hard. The various local Societies should try it out.

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A HOME SHOULD BE EASY TO OWN

Robert D. Kohn, President of the American Institute of Architects, paid an official visit to all the Pacific Coast Chapters last month. In an interview Mr. Kohn declared that the building of better homes for small wage earners is now the logical step for the building industry and one that will increase employment and hasten the return of prosperity.

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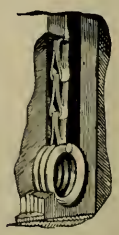

Page C3513 of Sweets Catalog

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"The skyscraper," said Mr. Kohn, "is out of date economically. Skyscrapers and large buildings in general have been overdone, but decent housing has not been overdone, and the potential market for the sale of small and better homes is enormous."

In support of his opinion Mr. Kohn asserted that 90 per cent of the people in this country earn less than $5000 a year, and fully 60 per cent not more than $2000. Most of these, he contends, have never had a chance to live in anything better than second-hand homes. The price of new ones, he said, has been prohibitive.

"But with the lowered costs of material and labor today," he said, "we should be able to build homes for these people for from $5000 to $6000, or at least one-third cheaper than a few years ago.

"However, to do so the leading architects and builders must cooperate along the lines President Hoover has advised in his call for a better homes conference."

"A man's home must be made as easy to own as his automobile."

Mr. Kohn heartily indorsed President Hoover's proposed conference on home construction and ownership, which has been set for December 2 to 5 in Washington, D. C.

FINANCIAL STATEMENT REQUIRED

Contractors who wish to bid on construction work at the University of California, are now required to file a financial statement before they can secure plans and specifications. If such statements are not filed, says Comptroller Luther A. Nichols, contractors may be seriously hampered when they wish to submit bids. This rule is similar to one adopted by the State of California in connection with its construction work.

The rule has been established, the Comptroller says, to eliminate

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from bidding contractors who are financially unable to carry forward construction work for the University satisfactorily, and to relieve them of the embarassment of having bids rejected after submission.

AN ALL-TILE RESIDENCE

Leading the way for other producers of building materials, the Associated Tile Manufacturers, Inc., have signed a contract for construction of a residence built inside and out of tile, to be shown as part of the Housing Exhibit of A Century of Progress Exposition, Chicago's 1933 World's Fair.

This is the first contract signed for the construction of a building in the housing group. It is believed that this will be the first time in history that a residence will be constructed completely of tile.

The Associated Tile Manufacturers comprise eighteen leading tile producing companies which manufacture every type of tile, from fine hand-made faience tile to the ordinary commercial types.

William F. Landers of Indianapolis is president of the Association. H. L. Gaardsmoe of New York City is acting secretary and H. B. Birtwistle is acting treasurer. Members of the Association will supply the materials for the house. Arthur D. Pickett, architect, of New York, is drawing the plans for the house.

According to present plans, the Associated Tile Manufacturers will erect a house which will fill the most modern needs of a small family. The building will probably comprise a large living room, two small bed-rooms with private baths for each; a kitchen and a dining alcove. Tile will be used in exteriors, interiors, for floors, walls and ceilings. One of the things which it is hoped to illustrate will be the correct use of tile on the exterior and especially on flat terraced roofs in a decora-

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tive way which will enhance the building's aerial view. The practical application and specific values of various types of tile will be demonstrated. An economical method of construction will, it is expected, be used, in which the system of installation and erection will be worked out scientifically.

Other groups of building material producers and large individual units in the industry are making plans to erect buildings in the Housing Group to demonstrate the uses of their materials to the millions of visitors to the 1933 World's Fair.

The Housing Exhibit, which is expected to be one of the most popular features in A Century of Progress Exposition, will cover an area of five acres on the Fair grounds and contain: eight residences, an apartment building, an exhibit hall, garages, and a model fire station.

Each building, it is planned, will be constructed of a different material, to demonstrate its particular advantages. Various types of housing — urban, suburban and semi-rural—will be exemplified in the show. The object of the exhibit is to demonstrate how attractive living quarters can be provided at reasonable cost for people in moderate circmustances.

Producers of construction materials and builders will be given an opportunity through this Housing Exhibit to display the most modern developments in materials and methods of construction and to reach audiences of millions of users and prospective purchasers. The materials will be furnished by manufacturers, at their own expense.

In the construction of the buildings, two courses will be open. The Works Department of A Century of Progress may draw up plans for the building and erect it at the Exposition's expense, charging the producer of the ma-

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terials a rental for the grounds space. Or the company providing the materials may engage its own architect and erect the building at its own expense, with the approval of A Century of Progress. In the latter case, no rental charge for ground space will be made.

This Housing Exhibit, it is pointed out, may be the means of showing the public the way toward more economical housing units, at the same time providing a maximum of comfort, beauty, health, sanitation and recreation.

WITH THE ARCHITECTS IN THE NORTHWEST

(Pacific Builder and Engineer)

Fred G. Rounds, associated with Silas E. Nelsen in Tacoma, had an enjoyable week in mid-September when he attended the Northwest Building Industry Conference in Spokane and visited the State College of Washington, where he was formerly an instructor in the department of architectural engineering.

* * *

C. Ferris White, Everett architect, is making plans for an addition to the Snohomish County Hospital at Monroe.

* * *

W. H. Downing has moved his office from the Abington Building to 1043 Chamber of Commerce Building, Portland.

* * *

Harold C. Perry, Seattle architect, has opened a studio at his home, 1514 11th Avenue West, where he is designing residences and doing other architectural work.

* * *

Ralph Bishop, draftsman for Earl Dugan, Tacoma, took two first prizes and one second in the architectural sketch competition at the Western Washington Fair, Puyallup. Edward Young, draftsman for Roland E. Borhek, took the third first prize.

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Harold C. Whitehouse of Whitehouse and Price, Spokane, recently returned from Denver, where he was delegate to the meeting of the Protestant Episcopal churches. Mr. Whitehouse has nothing but admiration for that city and for the enterprise and enthusiasm of its architects and builders.

* * *

Harlan Thomas, who heads the firm of Thomas, Grainger and Thomas, Seattle, and who is senior faculty member in the department of architecture at the University of Washington, has returned from a three months' tour of Europe.

* * *

A. H. Albertson, architect of Seattle, has been commissioned to prepare plans for the new Law School building to be erected on the campus of the University of Washington. The new structure is estimated to cast $400,000.

* * *

Harold H. Ginnold is now established as the occupant of the architectural office at 4141 Arcade Building, formerly headquarters for Howard H. Riley.

* * *

Benefits to be obtained by Tacoma from its planning commission were detailed by Ernest Mock at a meeting of the Tacoma Real Estate Board September 28.

* * *

C. A. Costello has opened an office for the designing of residences at 1103 East 71st Street, Seattle.

* * *

Dedication of St. Edwards' Seminary, recently built at Inglewood on Lake Washington, near Seattle, was an impressive event October 13. Denis Cardinal Dougherty, archbishop of Philadelphia, made a special trip across the continent to officiate at the ceremony. The seminary was designed by John Graham, Seattle.

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E. C. Rising, Seattle architect active in designing rustic and recreational buildings, has moved to 3326 White Building.

* * *

Lance E. Gowen, secretary of the Washington Chapter, A.I.A., has resumed his teaching activity in the department of architecture, University of Washington, Seattle.

* * *

Paul Thiry, Seattle architect, with studio in the Skinner Building, has made frequent trips to Shelton, Washington, the past two months in supervising the construction of St. Edwards' Church.

* * *

John I. Mattson, Seattle architect who maintains a part-time office in the Skinner Building, has resumed his regular occupation of teaching architectural drawing at the Grover Cleveland High School, Seattle.

* * *

Alvin I. Erickson, architectural designer of Wenatchee, is studying hard these days preparatory to taking the examinations for a state architect's license. He has just completed a highly creditable assignment on the junior high school addition at East Wenatchee.

* * *

Southeastern Alaska is receiving the benefit of artistic touches from two Seattle architects. C. Frank Mahon is making his influence felt in Skagway with the erection of the Pius X Mission School. William G. Brust is aiding the spiritual life in the design of a Lutheran church for Petersburg.

* * *

ALL-GLASS BUILDINGS

The "all-glass" building, with colored combinations and glass of one-way vision, is a development of the very near future, according to W. D. Clark of San Francisco.

There will be no paint used in obtaining the colored effects, according to Mr. Clark, who also points out that an investigation reveals that many buildings of such type are already contemplated. They will be as high as the modern sky-scraper and will have corrugated wire glass roofs, he says.

From the insurance standpoint it will mean that plate glass insurance will become a major class, rivaling fire and casualty insurance in volume. At the present time there is about $80,000,000 of plate glass insured in the United States.

"According to architects and engineers," Clark says, "the age of glass structure is upon us, and if all predictions are fulfilled, there will be a tremendous new field opened to builders.

"Walls and ceilings of glass, it is said, will be features of new structures, the sheets of glass being laminated for strength and set in steel frames. Color combinations, which will be permanent and require no paint, will be arranged to suit the public taste.

"Exterior wall glass is to be so fabricated that it will permit one way vision only to insure privacy and thwart the curiosity of interested passers-by, while roofs are to be corrugated wire glass."

Some architects who were allotted small post office buildings by the Federal Government thought they were lucky at first. They are not so enthusiastic now. A half dozen trips or more to Washington are eating up all the profits.

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THUMB TACKS AND T-SQUARE

[Concluded from Page 13]

your lot happens to be cast in the machine-age . . . In architecture the job should find the man and not the man the job. In art the job and the man are mates; neither can be bought or sold to the other.

"Respect the masterpiece—it is true reverence to Man. There is no quality so great, none so much needed now."

⁂ ⁂ ⁂

SPEAKING of the value of unification of the architectural profession to the State Association, John J. Donovan of Oakland, said: "I'll admit this is aiming high; but the target should have been raised long ago so that we of our time would now be enjoying the fruits of collectivity." In the light of progress every architect today may well repeat Mr. Donovan's assertion. However, unification could hardly have been viewed ten, or even five years ago, as it is today. Leaders of the architectural profession were not then prepared to accept such a broad view of the possibilities of organization as they now entertain. Moreover, there was not then results of actual experience upon which to predicate a similar movement, such as exist at the present time.

When one looks back over the post-war period he cannot but view with amazement the progress which has been made by the architectural profession from every standpoint. Emerging from the gloom cast over it by failure to gain recognition in the country's activities in connection with the war, and an apparent lack of appreciation of the importance of the profession by the public, the task ahead was disheartening to even the most optimistic leaders. In those hectic days the possibility of survival, even, was the subject of debate. But the profession has not only survived; it has risen to a place in the activities of the nation of which every architect may be proud. No professional group is assured today of greater permanency than are those engaged in the practice of architecture, says *Southwest Builder and Contractor*. Continuing that paper says:

"We are unable to agree with those who now and then lapse into a pessimistic view of the future of the architectural profession. It is true that the path of the average architect may not be strewn with roses. There are difficulties, and serious ones, which confront him at every hand. But these difficulties are not more alarming or more disheartening than those which confront men engaged in other professions. Many of them are peculiar to the architectural profession and have no parallel, perhaps, but they will all be overcome in time with due effort and patience.

"Unification of the architectural groups and coordination of effort, which is now about to be realized, point the way to better days for the architects of the country. There is common ground upon which the idealistic and the practical may be joined in the common weal. Many years have been required to break down the barriers to the approach of such a Utopian field but the next few years hold promise of a happy realization of this truly alluring prospect. An abiding faith, hard work and perhaps a little personal sacrifice, will consummate the unification program of the architectural profession."

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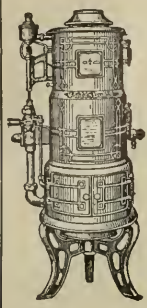

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Of the Architect and Engineer, published monthly at San Francisco, Calif., for April 1, 1931.

State of California } SS.
City and County of San Francisco }

Before me, a notary public in and for the state and county aforesaid, personally appeared W. J. L. Kierulff, who, having been duly sworn according to law, deposes and says that he is the Business Manager of The Architect and Engineer, and that the following is, to the best of his knowledge and belief, a true statement of the ownership, management (if daily paper, the circulation), etc., of the aforesaid publication for the date shown in the above caption, required by the Act of August 24, 1912, embodied in section 443, Postal Laws and Regulations, printed on the reverse of this form, to-wit:

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THE ARCHITECT AND ENGINEER

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WE wish every reputable architect might emulate the example set by George W. Kelham of San Francisco, requiring general contractors to file with their bids, a list of sub-contractors and the amounts of their proposals. That such a procedure, if made general, would greatly improve conditions in the building industry, there is no denying. For one thing it would do way with "peddling," a practice that has ruined more than one sub-contractor and has not added any laurels to the reputation of the general contractor.

Once a sub-contractor submits his bid it should be final. We have in mind one San Francisco concern that seldom tenders its bid to certain general contractors with the expectation of securing the job. "They use our bid to peddle to their friends and if the latter want the job they simply underbid our figure," said the manager of the concern. "And that is why we don't give a general contractor our low down figure any more unless we know he's on the level or we are reasonably sure the architect won't stand for any monkey business. If we are in doubt and the contractor insists on having our bid, we run it up so high that the other fellows refuse to shoot at it."

A recent example of compelling a general contractor to file his list of sub-bidders was the University of California gymnasium. In this case the low bidders, an Oakland firm, neglected to comply with the requirements, which were that a complete list of the sub-bidders and the amounts be filed with the general bid. The oversight cost the Oakland firm the job though their bid was $3000 under the next low bidder, a San Francisco company.

If this thing can be done on public work, why cannot it be accomplished on private jobs?

:: :: ::

AMERICAN cities have been outstripped in housing by those of Europe since the World War, according to Louis La Beaume of St. Louis, chairman of the Committee on Public Works of the American Institute of Architects.

"That our American cities need making over almost from stem to stern is undeniable, and that architects are competent to do the making is undeniable also," Mr. LaBaume declares. "There is scarcely a Chapter in the Institute which, if it set its composite mind to the task, could not develop the most Utopian, and ultimately practical, plans for the architectural regeneration of our cities."

After referring to our failure to achieve prominence in great housing projects such as Germany, Austria, Holland and Belgium have accomplished, Mr. La Beaume asks:

"What can be done at the moment to make America a happier place for architects, no less than for all the elements of the building industry, and for our citizenship at large?

"On every hand we hear the statement that the country is overbuilt. No more factories, no more office buildings, no more apartment houses are needed, or will be needed in the near future.

"If this is so, it would seem that any revival of the building industry, entailing the necessary services of the architectural profession, must come from a program of building of a non-revenue producing nature. Under this heading we naturally think of all sorts of institutional buildings—colleges, schools, hospitals, sanitariums, municipal, state and Federal structures.

"The present Federal building program is insignificant in volume, and the present state of the Federal Treasury might seem to discourage further large expenditures, but many sound economists hold that great public building programs by the Federal, state, and municipal governments, as well as increased institutional programs, will more than repay for themselves in the relief of unemployment and the stimulation of business activity.

"The profounder question as to what may be done to avert the recurrence of the debacle which is distressing us, still remains to be answered. It is not primarily an architectural question, although architects who have lent themselves to unsound schemes of financing, who have been seduced by the national mania for bigness, who have sold themselves as mercenaries to unscrupulous or unwise promoters, have their share of blame to answer for in the present depression.

"We hear much today of a closer coordination between all of the elements in the building industry—realtors, bankers, contractors, etc. Surely architects must work in close cooperation with these elements, but they should never lose sight of the fact that their main function is that of architect. If architects are to survive, they must hold this function pure.

"An architect is a man who, above all others, is equipped by training to plan and design buildings for the use and enjoyment of his fellow man. He must remain an artist and cannot become a promoter, a realtor, or a financier without tarnishing the only qualities which he uniquely possesses as separating him from other men.

"Need architects despair? I think not. The dreams they have been dreaming will all gradually come true, if they are dreams worth the realization."

:: :: ::

THE long campaign for modernization of older office buildings in the larger cities is meeting with pronounced success in San Francisco and elsewhere. The movement was launched over two years ago as an offset to the slump in new construction and an aid to employment. It was then estimated that there was a potential $4,000,000,000 market in commercial structures alone.

Many architectural firms, abandoning the old professional prejudice against promotion of new business, have set up "modernization departments." But for a long time their efforts by direct mail and personal canvass to induce owners of old buildings to put them in shape to pull larger

[Please turn to Page 108]

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Fresco by Diego Rivera

ALLEGORY, STOCK EXCHANGE LUNCH CLUB, SAN FRANCISCO

J. R. MILLER AND TIMOTHY L. PFLUEGER, ARCHITECTS

Detail of Rivera fresco. The large figure represents California. Her right hand disembowels the earth for its hidden treasure while the left hand holds the treasures that grow on its surface. There are portraits of Marshall, discoverer of gold, and Luther Burbank. Other figures represent the engineer, merchant, farmer, all panning for gold. Youth and its dreams are represented by a serious minded boy in cords with the infant industry—the aeroplane. The oil industry and shipping are shown above. The large ceiling figure running diagonally (to recall the diagonal line created by rail of stairs) depicts electrical achievement. This is flanked by representatives of sun and billowy clouds.

THE ARCHITECT AND ENGINEER

DECEMBER 1931
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THE STOCK EXCHANGE LUNCH CLUB, SAN FRANCISCO

by CARLETON MONROE WINSLOW, A. I. A.

EVERY now and then comes a surprise mixed with keen delight to him who watches the development (or is it evolution?) of the art of these times. The greater part of Art Moderne with which our streets and galleries are cluttered, leaves one cold or bored or depressed, but once in a while something shines forth and comforts the soul.

This delight of the soul is the sensation which one gets upon entering the rooms of the Stock Exchange Lunch Club at San Francisco, housed in two upper floors of the building of that name. The Club is situated high above the noise of the street and is devised as a haven for the city's business leaders including members of the busy mart below them. In it, after the rush of the daily session is over, the traders congregate for noontime refreshment, the exchange of experiences and other gossip of the trade.

The background for these amenities is a place of peculiar beauty, modern in every characteristic, yet impressively satisfying to the aesthetic sense of those who respect the past. After all, beauty is a very definite thing, though the defense of its inheritency in a specific object is not always easy to establish in convincing words. Concerning analysis of the inherent charm of this Club, one can say that the materials used have been employed logically and with surprising skill. The heavy construction of the building is not disguised but is treated at walls and ceiling with facings of California travertine in entrance and halls and with metal and calf-skin blocks in the lounge.

The stairway is simple, massive and effective and gorgeously emphasized by Diego Rivera's striking allegory. This painting in itself is worthy of a visit to the Stock Exchange Club. It is huge in scale and naturally cannot be seen as a whole owing to the limited size of the stairwell. Anent this one hears the same old criticism, "If it were only placed so that it could be viewed from a distance."

Why is this necessary? The painting as it stands would lose its effectiveness and dramatic action if this were done. If the details were reduced in scale and size to meet this commonplace criticism, the painting would become negligible in value and a tapestry would better suit the place. The artist is to be congratulated for his courage in doing a daring and noble thing and anyway the finished technique satisfies close scrutiny.

Metal works form an important element in the general scheme. Copper, bronze, monel metal, silver and brass are used skillfully and metalically and the results are soft and attractive and not hard and uncompromising as in so much of modern work.

The subjects of the decorations in metal and carved stone are whimsical and full of meaning, best studied by viewing the photographs accompanying this article, or better still, the Club itself.

The overmantle in the dining room is especially interesting, a new arrangement of the Zodiac rivaled possibly by the simplicity of that over the fireplace in the lounge.

Altogether the fine handling of the Stock Exchange Club should give much pleasure and satisfaction to those having the privilege of its portals.

* * *

Besides the fresco by Diego Rivera, famous Mexican artist, who was brought here purposely to do this work (his first in this country) the club rooms are rich in fine bits of sculpture and painting executed by California artists as an integral part of the design.

Carved panels of California travertine in the lobby and stair hall have been assigned to various artists. Ruth Cravath did three: "Bar Maid," "Workday's End" and "Lady Kneading Dough." Adeline Kent's panels show a "Saxophone Player" and "Ballet Dancer"; Robert Howard's repre-

STAIR HALL FROM LOUNGE, STOCK EXCHANGE LUNCH CLUB, SAN FRANCISCO
J. R. Miller and Timothy L. Pflueger, Architects

Walls are California travertine. Ceiling gold leaf. Carpet golden brown. Stair rails polished brass and chromium. Buttress flower containers are bronze as are console and seats appearing in distance.

sent "Hunting," "Fishing" and "Golf"; Clifford Wight, "Swimming" and "Football"; Stackpole's panels are on the walls flanking the fresco and represent "Indoors" and "Out", the former by a pair resting and enjoying the radio; the latter, a cowboy typifying the great open spaces of the West. All of the artists, including the genuously arranged so they grade from the restful hunter sitting in a boat waiting for the birds to fly over, to the vigorous hunter in the high Sierras in search of bear.

The mantel in the lounge is carved in Jeanne Dare stone by Stackpole, the central figure an archer, flanked by incised figures of animals suggesting man's moods.

DINING ROOM, STOCK EXCHANGE LUNCH CLUB, SAN FRANCISCO
J. R. Miller and Timothy L. Pflueger, Architects

Walls are avodire veneer with base of Hungarian ash. Window trim is ebony with pear-wood inlays. The ceiling is silver leaf with a tinge of gold. Carpet is green. Drapes greenish gray with figures in tan. Chairs walnut, finished like Chinese teakwood, and covered in natural pigskin.

women, carved their work in the stone.

The four painted panels in the dining room which are done on wood are the work of Robert Boardman Howard. They represent in a humorous vein the gathering and consumption of food in "America", "Europe", "Islam" and "China".

In the grille room, Otis Oldfield has done four panels on glass, depicting hunters of "Ducks", "Quail", "Deer" and "Bear", in-

Cartoons for the over-mantel panel in the dining room and the elevator door panels were done by Michael Goodman. The mantel panel was modelled by Olof Malmquist. The elevator door panels in applique metals were executed by Harry Dixon. Wrought iron andirons in the grille room were executed by Conway Davies. Raymond Puccenilli did various wood carvings. Furniture, floor coverings and draperies were supplied by W. & J. Sloane.—F. W. J.

Detail, looking from stair hall into lounge. Walls are California travertine, ceiling gold leaf. Large opening frame, flower boxes and seat are bronze. Rail is chromium plate and bronze, light and open with figures representing men dressed for business, golf and formal evenings.

LOOKING TOWARD LOUNGE, STOCK EXCHANGE LUNCH CLUB,
J. R. Miller and Timothy L. Pflueger, Architects

Walls are in calf-skin parchment in natural color. Ceiling is in pale gold leaf. Carpet is golden brown. Drapes are cream yellow. Furniture is covered in material of warm tan tones going almost to red in a few pieces. Green is used for benches at fireplace.

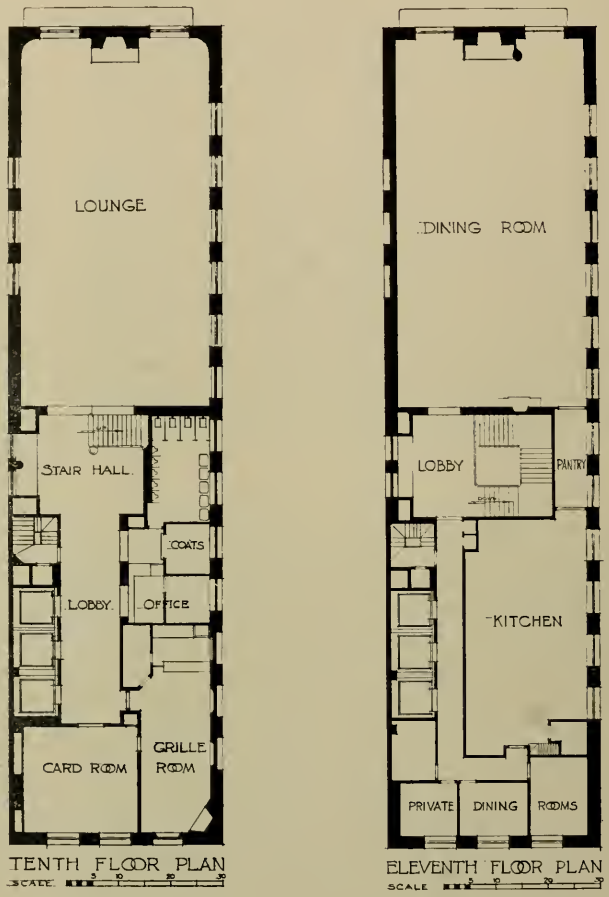
LOUNGE, STOCK EXCHANGE LUNCH CLUB, SAN FRANCISCO
J. R. Miller and Timothy L. Pflueger, Architects

This is the only room in which, reminiscently, an old world suggestion has been followed. Wainscot and ceiling are oak, plaster walls and slate floor. The painted windows are by Otis Oldfield.

GRILLE ROOM, STOCK EXCHANGE LUNCH CLUB, SAN FRANCISCO
J. R. Miller and Timothy L. Pflueger, Architects

Walls and ceilings are oak with strips of light birch. Oak is stained dark at bottom and lighter at top.

CARD ROOM, STOCK EXCHANGE LUNCH CLUB, SAN FRANCISCO
J. R. Miller and Timothy L. Pflueger, Architects



PLANS, STOCK EXCHANGE LUNCH CLUB, SAN FRANCISCO
J. R. MILLER AND TIMOTHY L. PFLUEGER, ARCHITECTS

DETAIL OF FIREPLACE IN LOUNGE, STOCK EXCHANGE LUNCH CLUB
J. R. MILLER AND TIMOTHY L. PFLUEGER, ARCHITECTS

The base is of laminated sections of California travertine in rich golden brown shades, having clear markings of petrified wood and the transparency of onyx. The pieces occur in the large boulders from which the lighter marble in lobby was hewn. The upper part of mantel is Jeanne Dare stone. The trim is bronze with lining cast iron. Sculpture by Ralph Stackpole.

DETAIL OF FIREPLACE IN DINING ROOM, STOCK EXCHANGE LUNCH CLUB

J. R. MILLER AND TIMOTHY L. PFLUEGER, ARCHITECTS

The panel is bronze with figures of gun-metal. Lower part of mantel is Belgian blue marble while the upper part is St. Genevive golden vein. Opening frame is bronze with cast iron lining.

UPPER FLOOR, STOCK EXCHANGE LUNCH CLUB, SAN FRANCISCO
J. R. MILLER AND TIMOTHY L. PFLUEGER, ARCHITECTS

Panel by Robert Howard

CORNER OF DINING ROOM, STOCK EXCHANGE LUNCH CLUB

J. R. MILLER AND TIMOTHY L. PFLUEGER, ARCHITECTS

MARBLE IN ARCHITECTURE

TO the architect, as well as to the average person who possesses a keen appreciation for the beautiful in all things, marble conveys the idea of a stone of more importance than ordinary building materials. There is a special beauty about marble, either in texture, color, or both and of sufficient hardness to take a polish. The varieties of marble are infinite, but numerous as they are, it is rarely indeed that any two quarries are precisely the same. For this reason architects must make their selections with care and before they can specify a marble where great quantities of a special quality of texture and color are desired, they must be assured that the quarry has the blocks in reserve or can produce them in the amounts demanded.

The study of geology is not a requirement for a collector, or close observer to classify marbles as to colors, for there are many of a uniform tone, as whites, black, gray, red, yellow, green, and others, but again, it must be noted that in all cases,, even in the white marbles, there are differences. For example the white marbles of Italy differ from those of Greece and America, nor are the black marbles of England like those of Belgium and Ireland. That there are such variations need not be a cause for wonderment, for a study of their origin will disclose that some are of quite recent formation in comparison to others. The white crystalline marbles are now classified by conclusive proofs to be nothing more than ordinary sedimentary limestone rocks, which have gone through a process of cooking or baking under great pressure, while being hermetically sealed by overlying rocks which have kept in the gases causing the limestone to crystallize to an extent that a new rock is formed, sometimes so entirely altered as to render the fossils indiscernible. Some of the white marbles have been formed by hot springs carrying in solution large quantities of lime and silica, which deposits, directly the corbonic acid gas is liberated in the atmosphere, often producing a rock of the purest white, or colored by any metal that the hot water may pass through. Black marble is likewise a sedimentary limestone colored by carbon, which color is immediately destroyed by heat, producing the whitest of lime oxide. There are black marbles with white veins, which are younger than the rock itself and are due to infillings of the cracks produced by different causes. Red and yellow marbles are formed in the same manner as the black marbles.

The Breccias represent the most disturbed formations of any of the known marbles. During the process of their formation these rocks are broken up into fragments and cemented together by nature and in some cases have gone through a baking process. It might be stated authoritatively that nearly all of the green marbles are earlier rocks that have been altered by being broken up and then cemented together. Verde Antico is an example of this variety of green marbles. The green marbles are nearly all magnesia, while the whites are in the same mass as lime, and occasionally both whites and green are found in the same formation or mass. And so it is seen that marbles are produced under varying conditions and the quality of necessity must vary also, in hardness and in many ways. Still other marbles, as for example many American marbles, are little more than fossils and mud formed under tremendous

pressure; others are compressed and baked clays. Care should be exercised in the use of clay marbles for frequently in damp installations they behave rather badly and return to their original elements. It is equally true that some marbles are not migratory in that they will not weather well away from their home climates.

The use of marble in architecture is older than recorded histories. The Greeks employed marble as an ordinary building on material, everything being massive, but stone and no effort was made to economize perfect mathematically. The huge marble blocks were finished off by grinding and rubbing until a wall surface was homogenous. No cement or mortar was used. The Greek columns, as they are described in many histories, were built with thick drums and when laid up the faces came together with such perfection as to render the joints almost invisible. When built the whole column mass was so skillfully masoned into a pillar of diminishing entasis and delicate flutings as to appear to be a monolith. Travelers with a sense of the beautiful and the ability to describe what they see, pen word pictures of the Acropolis at Athens that give the reader a visualization of color and subtlety of form not to be found elsewhere in the realm of architectural gems. The marble of the Acropolis is a warm ivory tint.

Methods of quarrying marble by Greeks and Romans was about the same, the latter having adopted the earlier practices, it is said. An old Roman quarry can be recognized at a glance for the upright face of the rock is invariably carefully tooled. The Romans, as is well known, took over all of the white marble quarries of the Greeks and in order to obtain colored marbles they opened new quarries where choice colors predominated. It is worthy of note to state that the Romans quarried their columns in Siut, or in the quarry engaged to the parent rock, either horizontally or vertically, according to the bedding or the solidity of the stone. Large circular hollows remain in some of the quarries where it is said that Justinian obtained the great Verde Antico columns for the St. Sohpia in Constantinople. Sarcophagi were quarried in the same manner by being worked all around and then wedged off at the bottom. Travelers describe many examples of finished and unfinished work in Siut, especially in the old Carystian quarries of Cipolino.—*Stone*.

FIRST BRICK HOUSE IN LOS ANGELES, CALIFORNIA
PENCIL SKETCH BY NATT PIPER, ARCHITECT

EL PASEO de LOS ANGELES

by NATT PIPER, Architect

IN Los Angeles there is a short street, very picturesque and typically early Californian. It has the appearance of an open-air market that has been lifted bodily from one of the carefree republics in the south. It is a street in which the fiesta spirit lives —every day and every night. Beautiful coloring; soft guitar music; pungent odors from the open-air cooking of tamales, tocas and enchiladas; cries of vendors of native wares and the constant stream of visitors all blend into a fabric, the exact like of which has not been woven in Los Angeles for over a century and a half.

Olvera Street, or as the public-spirited persons who made it possible, sometimes call it—El Paseo de Los Angeles, several years ago was but a wide sloping, littered alley in the rear of store buildings that fronted upon a higher street. Christine Sterling, an energetic, practical "visionary," was the one who enlisted the aid of people who saw with her that this part of the city, especially the cradle of Los Angeles and the heart of the little pueblo in the late 1700's, held an heritage of the past that should be preserved. Between them they had rubbish removed, gained the help of city officials and began the work of restoration that was so successfully done that it appears ages old. This effect enhanced, of course, by the truly old houses —one of them, the Avila house of adobe with a hand-split redwood shake roof, which was built in 1818.

On each side of the street are booths, called by the Mexicans, "puestos." Most of them are of light canvas or wooden construction, but many are also palm thatched. In them the natives sell hand-made jewelry, baskets and textiles, candies and pottery. Alongside and in back of them, with entrances between the puestos are small curio stores, an old book shop, cafes, a marvelously played puppet show, studios and tearooms. Some of them are below the level of the red-tiled pavement, while others are a few steps up, higher than the street. Incidentally one may obtain the rare, amethyst bottles colored by the intense desert sun, in one booth quaintly styled "The Thieves Market.'

El Paseo de Los Angeles, literally translated as "The Walk of the Angels"—centers with the old historic Plaza and is just a step north of the labyrinth of streets that form picturesque Chinatown.

There is much to see and to hear in the Paseo. "Messacan shomping beans, senora"—announces one vendor with a gaily-painted tray swung from his shoulders, to a woman tourist—who finally finds that he sells Mexican jumping beans; "Velas de Mexico," (prounced may-ee-ko) from the maker of wax candles; "Tocas, frijoles v

INDIAN CURIO SHOP, OLVERA STREET, LOS ANGELES
Pencil Sketch by Natt Piper, Architect

ENTRANCE PATIO, OLVERA STREET, LOS ANGELES
Paving Tiles in Replica of Old Tiles Found Four Feet Below the Surface

tostados"—food cooked in the mode. Cries that have almost a plaintive sadness in them and that are yet hopeful and courteous. Harsh, loud voices are never heard. When English terms are used there is a quaint lisp and a musical softness to the attempted correct pronunciation that is appealing indeed.

Several small shoe polishers with their boxes will present themselves to a prospect —"Shine um up meester tane cents"—almost in a single, long word. The prospect may brusquely shake his head, whereupon one tiny Mexican will place his box squarely in front and say "Brush um up neekel." If that doesn't bring business he

A VILLA HOUSE, BUILT OF ADOBE IN 1818
LOS ANGELES
Pencil Sketch by Natt Piper, Architect

drops to "Clean um up thray cents," and this final and almost invariably successful appeal keeps his pocket full of small coins. He may be only eight years old with eyes that are beautiful and soft, reminding one of an Henri painting.

Tranquility reigns here. Just a square or so away a hurrying city noisily goes on with business, but in Olvera Street time is of no moment. Old timers sit and dream and gossip in the sunshine while younger men stroll along in front of the "puestos" with merry "Buenos tardes"—Good afternoon — and tourists entering in a nervous bustle drop all sophistication and haste and become a sympathetic and responsive part

CROSS, WEST END OF OLVERA STREET
LOS ANGELES
The City of Angels' Famous Plaza May be Seen in the Background

"DOS PUESTOS", OLVERA STREET, LOS ANGELES, CALIFORNIA
Pencil Sketch by Natt Piper, Architect

of the picture. These same tourists always stay much longer than they first thought they would.

A woman wearing diamonds and furs, with an escort as finely dressed will be seen eating tamales in a little cabana, sitting beside a Mexican laborer out of a job. They try to speak to each other, asking the names of articles of food in each of their languages.

Artists have long since found the Paseo, where the picturesqueness delights them and lends inspiration for their work. They have sketched and painted the old buildings, the huge old stone watering trough, hand-hewn by the Mission Indians and the irregular booths with their interesting wares and gaily-colored awnings. Best of all the most beautiful senoritas and the finest charros in all California are to be found here to pose for them in their native costumes. There is no doubt at all that coming exhibitions will find many canvases portraying some colorful corner, or some intriguing feature of this new-old Olvera Street—El Paseo de Los Angeles.

ETHICS AND FREE SKETCHES

THE Principles of Practice of the American Institute of Architects, like those of any other profession, are a set of self-imposed rules of conduct devised to protect the best interests of the public with whom the profession is involved and thus to indirectly increase the prestige of the profession with that public to which it must look for its livelihood. They are the rules of conduct found from long experience to serve the best interests of the architect and of his client or prospective client and must not be regarded as restrictive, but rather as an aid to practice.

Your committee* feels that the situation in regard to ethical practice in the architectural profession is as good or better than in most other professions. This is not necessarily a statement to be proud of because all the professions have serious difficulties to face and there is evidence in architecture of ample room for improvement. The medical profession finds it necessary to keep up a constant fight to maintain their standards and the legal profession is today feeling the loss of public confidence due to unethical practice on the part of some of their members. The public also suffers because it is deprived of the services of the really able practitioner through loss of confidence in the whole profession brought on by the actions of some of its members.

*Report of the Committee on Practice of the Detroit Chapter, A. I. A.

The present economic depression brings with it a situation in our profession where members will be faced with strong temptation to act contrary to the Principles of Practice in the hope of immediate personal advantages. The committee feels that in times like these it is doubly important to uphold the standards of the profession and retain and build up the confidence of the public—our future client. Let us not make the mistake that a few corporations and financial institutions have demonstrated in various sections of the country—that expediency justifies any action, regardless of how unethical or even illegal such action might be. Witness the enormous loss of faith on the part of the public in these cases and the consequent disastrous results to business.

Your committee believes that the best interests of the architectural profession, and of its individual members, can be served best by strict adherence to the Principles of Practice as laid down by the American Institute of Architects.

We have heard much in the last year or two of the cry that architecture is really a business instead of a profession; or if it isn't it should be. We take the contrary view, and hold that architecture's very existence depends on its practice being more purely professional. We do not mean to imply that its professional practice should not be conducted in the most business-like manner. On the contrary, it is of utmost importance that it be so conducted. We feel, however, that there has been much loose thinking and considerable loose talk

about putting architecture on a business basis, and that this has tended to hurt the profession rather than help it. That the profession in the past has been criticized for being unbusiness-like is an urgent argument for more business-like conduct of our professional practice and not an argument for making of architecture a pure business. Remove from architecture its purely professional basis and it loses at once its greatest power for service. We fail to see where business in general has set any high ideal of service and we feel that architecture can do better than to pattern its methods after those of business.

The need for maintenance of our high standards is again apparent when we consider that unless architects measure up to what is being claimed for them our whole plan of public information concerning the profession breaks down.

The committee can do little without the wholehearted cooperation of the members of the Chapter. We feel that we have had the cooperation of a majority, and we ask now for the active support of the entire membership.

We have attempted from time to time to point out the good common sense of ethical practice— how it actually pays in dollars and cents. In one case of submission of free sketches in a "scramble" competition which we investigated this year, it was brought out that one competitor had expended the sum of $750.00, not counting his own time, in preparation of his entry—and what were his chances of securing the commission? We venture to say that not one in three hundred and seventy-five. By the law of probability this means that to be reasonably sure of securing one such commission he would have to enter three hundred and seventy-five such "scrambles." Even with as low an average cost as $100.00 for each entry he would be required to expend $37,500.00 to secure one job. Rather a high sales cost. Actually the chances are incapable of calculation because it has been shown time and time again that merit and ability hardly enter into the question. This man's action wasn't even good gambling. By the laws of probability his chances of winning were too small to warrant the expenditure, and if he continues playing such a game he is bound to lose his roll and probably his shirt also.

To clear up this "scramble" competition evil by which the profession loses so much prestige we must have consistent action on the part of members. We need hardly point out the effect on a building committee about to select an architect in this manner, despite the advice of the Chapter to the contrary, when they find Chapter members elbowing their way in, each with a set of free sketches. It has, however, been abundantly proved all over the country that with consistent action on the part of Chapter members, building committees are quick to grasp the inadvisability of this method of selecting an architect.

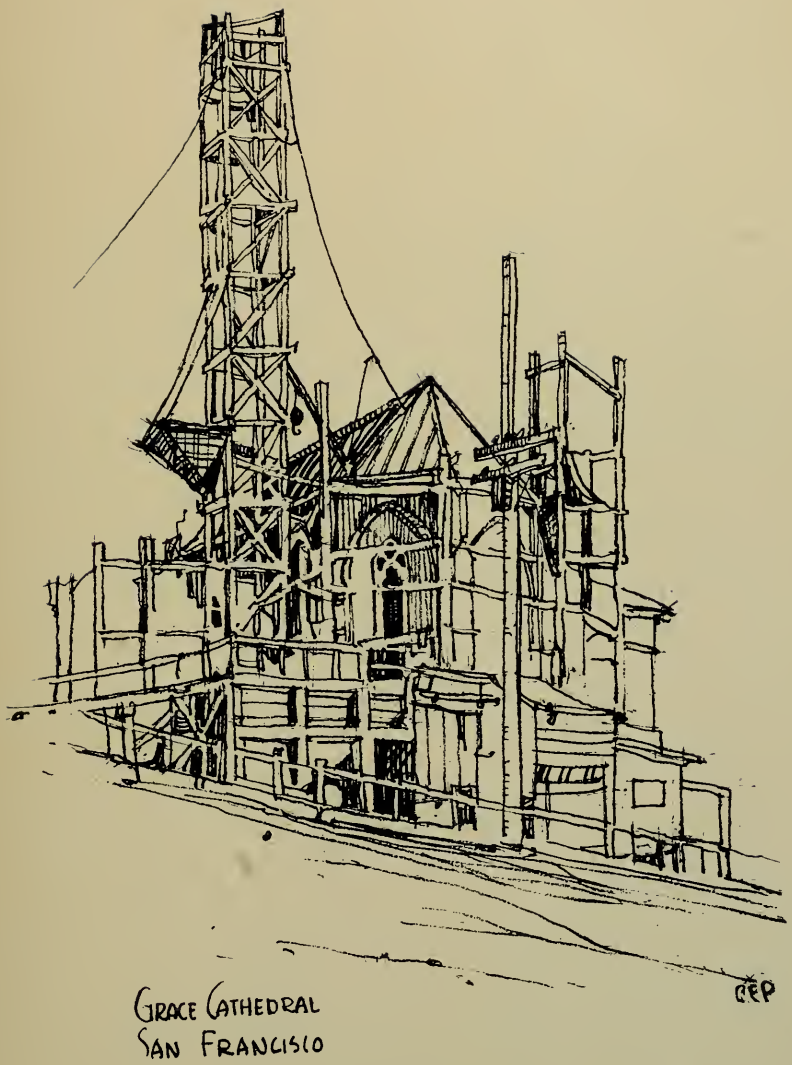
The committee has in the past year endeavored to follow up and investigate every reported violation of the Principles of Practice and sincerely hopes that this policy will be continued. It has endeavored to correct conditions, first by education and persuasion of the individuals involved It does not relish, but stands ready to use more drastic means where the situation requires. The committee has established and will seek to perpetuate a permanent file, wherein will be preserved the records of all investigations of irregular conduct, together with the findings of the committee. In cases where investigation shows conclusively that complaint or rumor of unprofessional conduct was unfounded or based on misunderstanding the records will not be preserved in this file.

In conclusion we wish to emphasize the value of mutual confidence on the part of all members in each other. This can only be brought about by every member playing the game fair and square and above board. If we have faith in what the Institute stands for and what it is doing for the profession then let us all play the game in the manner that the Institute prescribes —in short, in a thoroughly sportsmanlike manner.

PORTFOLIO OF SKETCHES

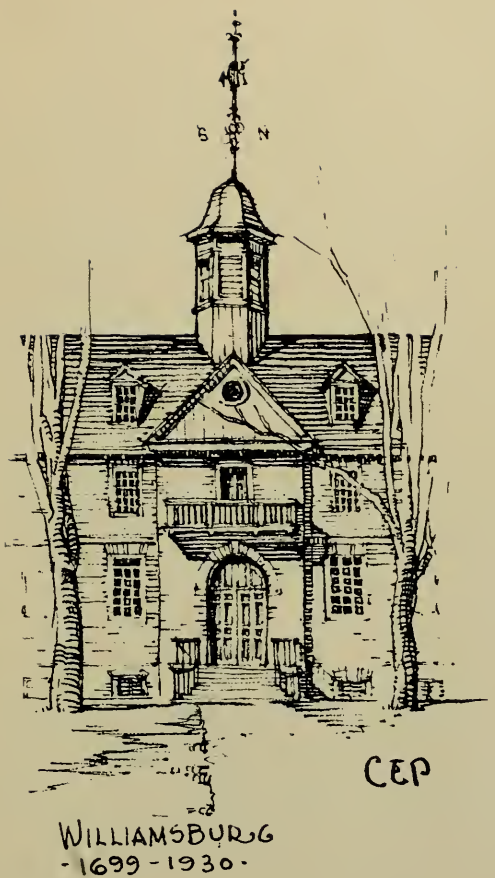
BY CHARLES E. PETERSON

U. S. NATIONAL PARK SERVICE

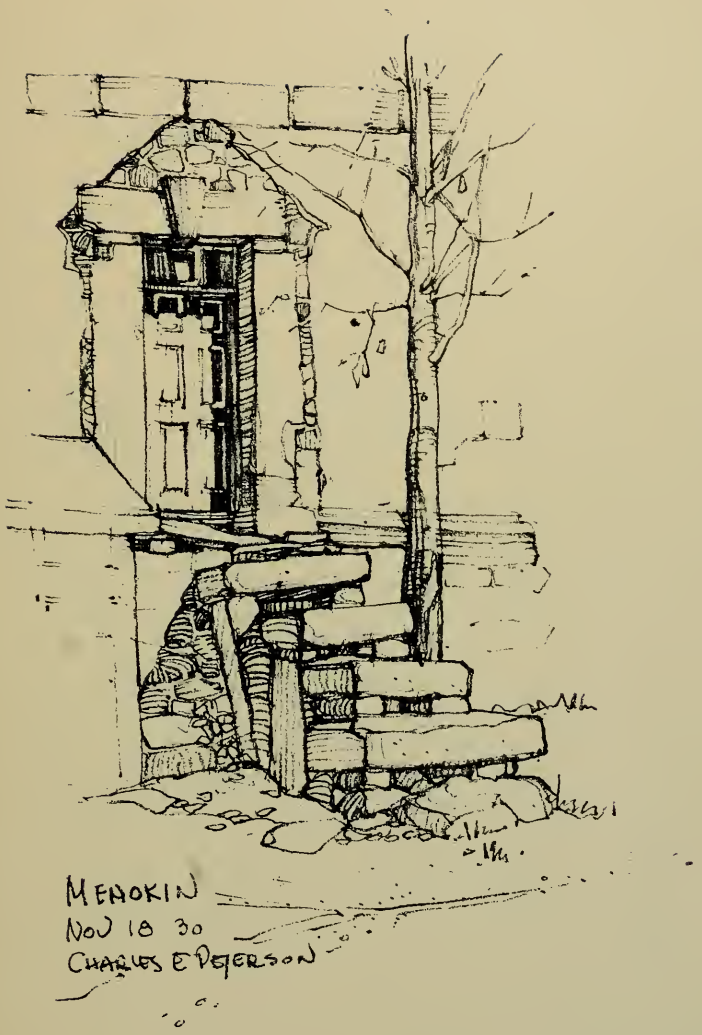


THE BEGINNING OF THE
GREAT CATHEDRAL THAT
WILL CROWN NOB HILL

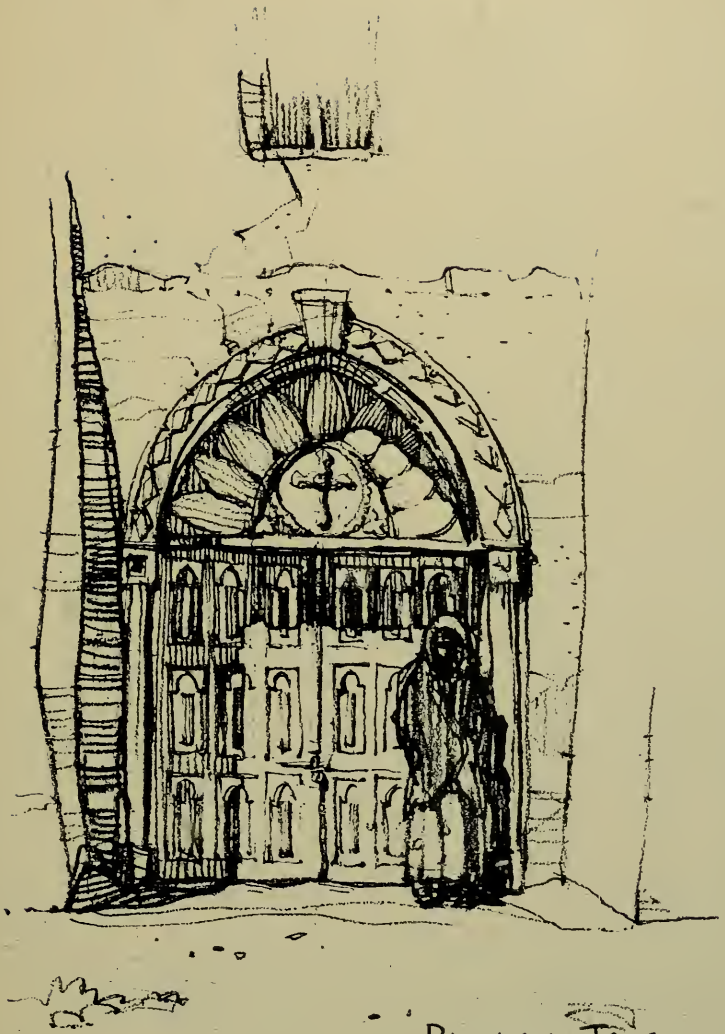
THE MOORE HOUSE AT YORKTOWN, VIRGINIA, WHERE THE TERMS OF THE SURRENDER OF CORNWALLIS WERE DRAWN IN 1781



THE "CHRISTOPHER WREN BUILDING" OF WILLIAM AND MARY COLLEGE, THE OLDEST ACADEMIC BUILDING IN AMERICA



RUINED DOORWAY OF
AN OLD STONE MANSION ON
NORTHERN NECK, VIRGINIA



WOODED DOORWAY TO A
QUAINT ADOBE CHURCH
IN NORTHERN NEW MEXICO

MURAL, "THE FIVE CONTINENTS," IN DINING SALON OF STEAMSHIP ROOSEVELT, BY FRANK W. BERGMAN

FACTORS INFLUENCING DECISION IN A BUILDING PROJECT

by F. P. BURT

ACCEPTING the fact that business in general is at a low level, can anyone now state definitely: This is the bottom of the slump? Could anyone have said two or three years ago: This is the top of the boom? If the position of these critical points could be predicted with sufficient force and reason to convince the public, excessive booms and disastrous slumps would not occur.

Many efforts have been made to discover the economic laws that govern these fluctuations; but the experience of the last decade shows that we have not yet got rid of heavy grades and sharp curves in the right-of-way of industry, nor have we found the best alignment and location for carrying the fast-increasing traffic.

Certain things are, however, made obvious by the records. These ups and downs come with sufficient frequency to be encountered several times during the average life of a business building and they are, of course, closely attended by rise and fall of material and construction costs. How can a building erected at peak prices compete on even terms with another built at bottom prices? Or one built without regard for demand for space and fitness for purpose with one properly located and carefully planned to serve obvious needs?

It may properly be said that this is reasoning around a circle; that activity in construction work makes the so-called good times and sluggishness the bad ones. But the point is that there is a recognizable stage in each cycle in which spending goes beyond prudent limit; and another stage in which saving means loss of opportunity for profitable investment.

Property owners who study these trends and movements closely, who refrain from undertaking construction when costs are mounting high but proceed with it when costs are trending downward, are the ones whose buildings can be run at a profit for the full period of their effective life. And those who adhere to such a policy not merely serve their own direct interest, but they help to limit extreme movements upward and downward in all lines of business, by putting a brake on runaway optimism and giving an effective push when pessimism prevails.

The building industry, like all the rest, has been having a tough time. The lesson on the limitations of prosperity has been a severe one and is probably not yet fully learned. But there are signs that it is at last being comprehended and taken to heart, and that realization of the folly of recent excesses is arousing a rational confidence, which will be reflected in judicious construction.

Let us consider the case of a property owner who believes that there will soon come an opportune time to improve a valuable site in the central business district of his city by the erection of an office building; and let us set down some of the factors that must have a potent effect in deciding

* Research Editor, Building and Building Management.

whether he shall build or not build and, if he determines to go ahead, what shall be the purpose, design and capacity of the structure.

To arrive at a satisfactory and safe solution of these problems he will require:

A. Reliable information as to business trends, office space supply and demand, vacancy percentages and prevailing rental rates in the city and neighborhood.

B. Appraisal of the present value of the site and its probable future value.

C. Decision as to what classes and members of the office-using public should be solicited as "key" tenants.

D. What type and design of building will best suit their needs and what amount of rentable space is compatible with the anticipated demand and with the value of the land.

E. Preliminary building plans and specifications from which to figure construction and equipment costs, and operating expenses.

F. Consideration of renting methods and policies and fixing of rental rates from which probable income may be computed.

G. The preparation of a plan of financing adapted to the case.

This list gives little more than titles of the subjects recommended for the attenion of the building projector. For the sake of making the purpose more clear, a brief explanation of each requirement and its application to the project under consideration is made in the paragraphs that follow.

A. *Office Space Market Conditions*

Owners of land affording suitable sites for income-producing edifices such as office buildings are fortunate in that they frequently have reliable information as to trends and conditions ready at hand. Rental surveys are regularly undertaken in many cities and statistics of vacancies and space absorption are compiled. These provide data upon which the propriety of engaging in improvements may be determined. In cases where such facts are not on record, however, the need for careful inquiry is indicated. Experience has proved that a new building put in operation where adequate space for the community's needs already exists must expect to suffer from a long period of insufficient income or will result in ruinous competition in rates that in the end entails still greater aggregate loss. If reasonably assured that present supply is well beyond present, or near future demand, the wise owner may well decide to defer building or be satisfied with a "taxpayer" improvement.

B. *Appraisal of Land Value*

If conditions are found favorable enough to warrant going ahead with the building project the owner must have a careful appraisal of the present value of his site (which obviously may differ widely from the price he actually paid for it) and the appraisal should include valuation on the basis of its proposed use for a period extending over the estimated life of the projected building. These data are necessary for computing the amount to be earned and, therefore, the space to be created to make the building a financial success. It is evident that the structure must be planned with due regard to the value of the land, for it must earn interest on that value as well as on its own cost and must also provide sufficient to pay all expenses of operation and maintenance, with due allowance for depreciation.

C. *Key Tenants*

The businesses and professions followed by occupants of a building have considerable bearing on its design. As instances of this: When a new building aims to take advantage of location in a retail merchandising district, special attention should be given to the layout of lower floors and basement and to arrangement and position of elevators and lobby to serve office floors; and when the prospective occupants include a number of physicians, surgeons and dentists, certain floors should be selected to house them, and the special plumbing and so on, required for their uses, should be installed at the time of constructing the building.

D. *Capacity and Design*

While the best design and layout of the building will depend largely upon the classes of tenants it is to serve, its capacity must partly be based upon results of investigating the probable space demand. But the capacity must depend also upon the value of the land. If made too small, it will be unable to produce adequate income; if too large, there will be much unused space and the income will still be insufficient.

E. *Estimates of Cost and Expenses*

If the requirements outlined in the preceding paragraphs prove to be irreconcilable with each other and with the owner's means for handling the project, he will no doubt decide to defer action. If they seem to fit together he will proceed to the preparation of complete preliminary plans and estimates from which to figure construction and equipment costs and expenditure required for fixed charges such as interest on invested capital, taxes, insurance, etc., and for operation, maintenance and depreciation. At this stage the owner will have retained the services of an architect, who should be one familiar with office building design. He will also have occasion to secure advice from some competent building manager or managers, who can cooperate with the architect on the building plans and specifications and estimate the costs of operating and maintaining the property.

F. *Estimates of Revenue*

It will also be essential to consider rental policies and methods and prepare a rent schedule applicable to each of the various classes to be offered in the building. Estimates of revenue from rentable space and the estimates of total expenses as indicated in paragraph E, are both needed for the information of those who are expected to invest on the security of the property's true value, which in turn depends upon its earning power.

G. *Financial Set-Up*

Having the first six requirements satisfied it is practical to consider the best financing plan to adopt for carrying out the project. The income to be earned from the building is computed at something less than full occupancy; ninety per cent is generally considered fair. This income should be sufficient to cover total operating expense, interest on investment, taxes, insurance and minor items, and also amortization of junior liens, and, of course, profit.

There is rather a wide choice of methods for raising the necessary funds; but the typical method is to supplement the owner's equity by first and second mortgage or their equivalent. The total project costs to be capitalized must include the appraised value of the land, the construction costs with professional fees, the interest on capital used and the taxes and other charges accruing during construction, and also the cost of initial vacancies until these are reduced to the point where the income from rented space suffices to cover all expenses. Some of these last items are not infrequently overlooked; but considering that a first-class office building rarely takes less than a year to complete, it is evident that they run to a large proportion of project cost and must therefore be included in the capitalization.

Practical Value of Skilled Advertisers

The chief points on a building project that call for owner's attention have been touched upon above in more or less logical order. It will be noted that items A and B are outside the influence of the projector; but the others are in large measure subject to his control. They overlap or interlock very considerably and so must be considered in relation to each other and modified if out of balance. Certain items are evidently quite closely dependent upon one another and must be made to conform. For instance, if the total estimated revenue (Item F) does not exceed the total estimated expenses (Item E), then the rental rates must be raised; or, if this is not possible, the cost of constructing an equal amount of rentable space must be reduced. The adoption of either alternative may call for change in design (Item D) and for revision of the financing plan (Item G).

The average building owner has other interests that prevent his giving close at-

tention to all details of his real estate holdings. It is unessential that he be able to handle in person the many matters that attend the creation and operation of a valuable office building. But his interests in such a project are so important that he should at least have a broad general knowledge of the field, should know where to obtain the best advice and should be able to assure himself that he is getting efficient and honest service.

As temporary advisers, he will have the appraiser, the architect and estimator and the special consultant or consultants on the problems of equipment and operation, renting policies and schedules. The best aid to the owner, throughout all the stages of any project for creating an income-producing building, can be rendered by the man who is expected to have permanent charge of the property. In making this statement it is assumed that the building is to represent value enough to warrant the cost of employing a manager who is fully capable of dealing expertly with all the owner's interests therein. There are many such managers in the field but of course their remuneration must be commensurate with their knowledge of building problems. Even in the case of a smaller building the projector will have need for the temporary services of unbiased, qualified consultants in solving the questions of layout, equipment, operating and renting policies that are sure to arise while the project is under way. Advice of this kind results in making improvements and changes at a time when they cost least and it is of such value that it cannot safely be dispensed with.

During the recent "good" times, capital was too hotly pursued and too roughly handled when caught. As a consequence it has become timid. For a couple of years past it has been looking askance at real estate as well as at other industrial and commercial ventures. But deferential advances and modest claims will soon make it less shy and more ready to accept proposals that can show sound reasons for expecting a happy outcome.

While it is true that the recent era of excess production and lavish expenditure has resulted in a large surplus of building space in many cities, there still remain many that have few or no modern buildings and there are special locations even in over-built cities where new space is demanded.

The construction of these needed buildings and the improvement and rehabilitation of a vast number of good "going" structures are the activities that should, at this particular juncture, have the interest and attention of property owners and investors.

HOW MAY WE KNOW?

by JULIAN C. MESIC

BY the world's universal token!—replica or miniature. The process was not beneath the Egyptian kings, as witnessed in the Metropolitan Museum, New York.

You may judge *our* success, here and now! The patio photo is of reality. The model in photo shows the house and garden from without the patio wall. Visualize all in rich color, and you will gain some concept of the model's ability to portray reality. For the "vibration" you must come and see for yourself.

Simplicity characterizes the Egyptian work, and ease of execution marks ours.

PATIO, RESIDENCE OF MRS. OSBORN WHITE
Erle J. Osborn, Architect

Perhaps he had no use for speed; but we *think* we have, so the years have witnessed many advances in craftsmanship which permit us flexibility and prasticity, for just so long as we require. Plasticity

MODEL OF RESIDENCE FOR MRS. OSBORN WHITE
Julian C. Mesic, Modeler

MODEL OF CORPUS CHRISTI CHURCH, OAKLAND, CALIFORNIA
William Edward Schirmer, Architect

may then be exchanged for durability, but long ere this our model may have served its purpose to convince ourselves or a client of a point at issue.

We spoke of the many possibilities, in these pages, October, 1929. We may have required one of the numerous other types of models in vogue. In any type there are many uses for our latest "recording"—*mache'*. The entire group shown here is, or can be made, safe for shipment in the hands of the hardiest "baggage smasher", by its direct use.

STUDY OF GABLES—MODEL BY MESIC
William I. Garren, Architect

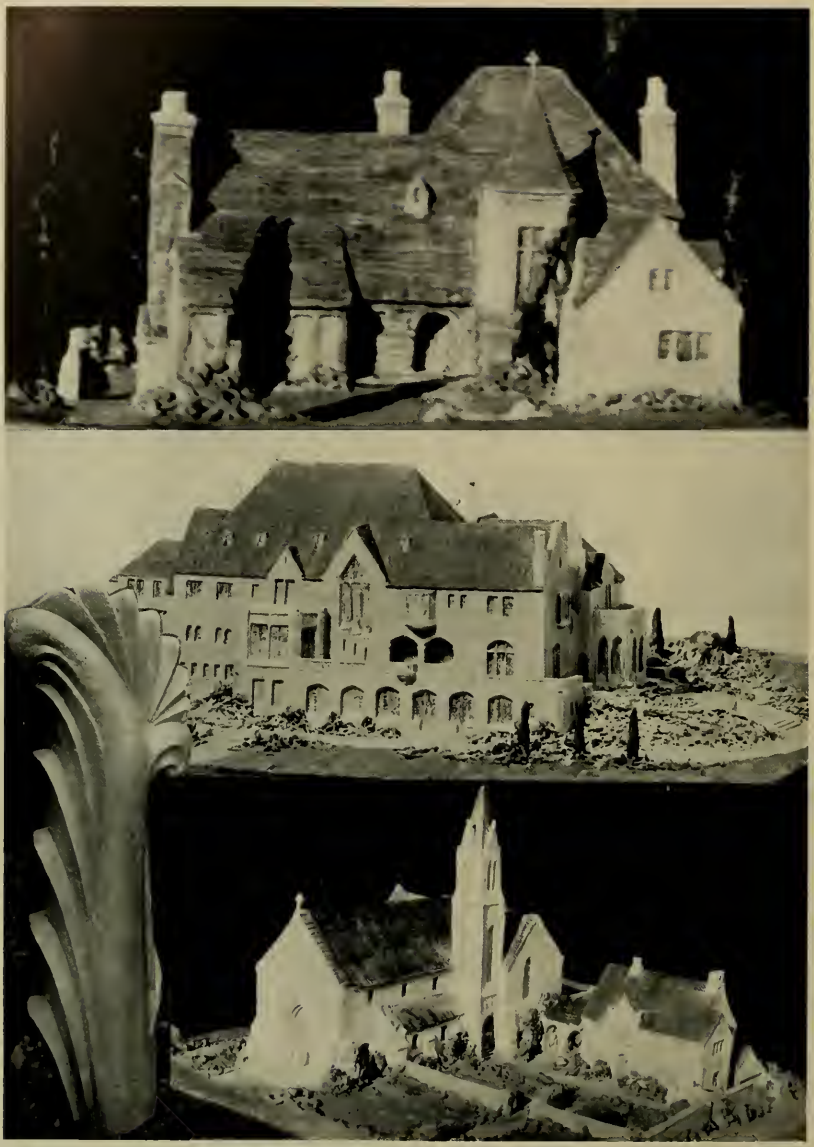
Aside from lightness of weight, combined with strength, greater speed and more convincing modeling is readily obtained in portraying shrubbery and trees. All parts and elements are modeled, beginning with the wire frame and the fiber and continuing to the last dot of plaster. Yet you can witness no radical change in the aspect of the type,—that is the art—maybe.

At least, it is the only way to create expressively. An addition here, an adjustment there, your plan takes on beauty and becomes understandable to the layman—the model crystalizing the whole.

Thus the cycles go, and with them come our individual victories over material, benefiting our fellows with ourselves.

MODELS—RANCH HOUSE, HEALDSBURG (Upper and Lower Pictures)
Erle J. Osborne, Architect

MODEL—STUDY OF A HOUSE (Center Picture)
William Edward Schirmer, Architect



MODELS OF STUDIES, HOUSE AND CHURCH (Upper and Lower Pictures)
William Edward Schirmer, Architect

MODEL OF SWEETLAND HOUSE (Center) Decoration on the left is a full size "test in mache" for a garden by Julian C. Mesic

THE NUMBER TWO IN ARCHITECTURE

by WILLIAM LEE WOOLLETT, A. I. A.

BEGINNING with the idea of self, the necessity of the not-self is obvious. These two, "I" and the "Not I" the first grand equation, with these the universe begins to function. Mother and babe, two parents, etc.

Two ears to hear, two nostrils to smell, two jaws to eat, two eyes to see, two brains, one in the head and the other in the hand, cause and effect, top and bottom, left and right—opposites, night and day, and so the complete categories of two, beginning and ending, reciprocity, and action and reaction. The Swede calls on the telephone "is dis de middle gif me de odder end, please."

The functional significance of the number two is illustrated further by considering the three planes which may be passed through any organic body, a man, a beast, a bird, a fish, or a bit or protoplasm, at right angles to each other discloses duality of two types—functional duality entailing the idea of symmetrical correspondence, and the idea of compensation in diversity.

The three sections of these bodies discloses for all types of organisms the same interesting common characteristics. The exception proves the rule, but for the sake of simplicity and beauty—let us consider the mammal forms, or the fish. The vertical and horizontal longitudal sections show the sequence of forms from head to tail of the organism and the third section the vertical cross section, indicates the particularized elements as they appear in the other sections at various points. Two sections, the horizontal longitudinal, and the cross section show the functional framework as symmetrical on one axis, and the third the longitudinal-vertical section show the same as unsymmetrical, the latter developing the idea of series. In the relation of any one section to the others we are able to read the functional values of the parts. As noted in the case of the horizontal longitudinal section there is absolutely symmetry and duality of form; and as to the longitudinal axis in this plane difference of function from one end to the other. So that the idea of duality, either symmetrical or functional or both, ends with the first two sections. Therefore as we consider the series of values in the three various sections we note that the vertical cross section tells us very little as to function it is diagramatic of form of which we could know nothing except for the other two. The sections made in the direction of length give the more complete functional story.

In two sections duality as noted above is expressed in a different degree and a different manner. These several dualities constitute six reciprocating parts—couples you might call them. The duality of the idea of function, being clearly traced now the important point is that the idea of axial symmetry it identified with functional duality, and that the unsymmetrical sections are identified with the idea of progression, *series* and diversity. The idea of functional duality is an idea of three for it is the idea of the "I" and the "Not I" and the correspondence of these two. The idea of diversity, progression and series opens up a universe of ideas, which so far as the study of two is concerned, is not of interest just now. But why is three? Is answered so far as the metaphysics to organic forms is concerned.

There is a mutual action and reaction between the "I" and the "Not I" between the conscious ego and what appears to be the universe. Some philosophers think that

EDITOR'S NOTE: The first installment of "The Number Two in Architecture" was published in the Architect and Engineer, October, 1931.

the universe is a creation of the ego, i.e., that the entourage of the ego is dominated and determined by the organism of which the ego is a type or integral part. Thus the idea of time which completes or makes possible an idea of space is a condition of our state of being. The elemental concept of the ego and the world of creation with which it functions is based on the idea of two, and the derivatives of this relation three. Therefore two has a functional significance and as such it is the natural vehicle for emotion. Two hands welcome the stranger, and two are raised in prayer. When a third element comes in it is as an instrument or object of function. Thus we get the idea of mechanics, the principle of the fulcrum, the block and pulley, etc.

I consider the idea of one, two and three as practically one idea, for the simple reason that there is no joining or manipulation of reflexes in the mind, necessary before a coetion of these ideas are complete.

In architecture, the column and lintel is functional. The wall and the buttress is fundamental. The walls and roof spell protection, functional. If you wish to indicate action and reaction—positive and negative, good and bad, the symbol is two of this or that. Two hands that clasp, how old the meaning, two who swear fidelity, friendship.

The divided house cannot stand, an empty sack cannot stand. In the breaking down of unity the dramatic opposite of one is two. The breaking into two parts is at once the climax and explanation of continuity. The cell of protoplasm breaks in two and so on indefinitely. Time is rendered in twain—the past and the future, the present, nothing but a line.

When a mind has once considered the idea of two, two forms—two planes, two lines; two opposing or complimentary abstract ideas in a picture, a group of statuary, or a piece of architecture, these various two's must be related in some manner or else their being so considered is illogical and irrelevant. If related then, to each other, then how? Two of anything as a component part of an art composition means three of course, since the space between always counts for something, if for nothing more than a form of empty air. But the space between does not count as part of the symbol except and unless this space is a factor in unifying the two.

The problem! A fold of drapery, an area of flowing hair, a mass of clouds, a group of buildings—what not—shall it be divided into three main masses, each of the three in turn into two or three or more smaller parts, etc.? What is the number of subdivisions necessary? What is the principle? How to get parts, rhythm, color meaning, full simple modeling into these areas according to some workable principle. Here the Greek tells us much, the simple way, the nerveless way, the numbers one, two, three—is the way.

The Barye Lion which covered with dust, hidden shame-facedly behind an old French Dictionary now spoke. No one had looked in his direction for a long time. Just then he seemed to jump out of his dingy background. What did Barye do — yes! Strange! There are three main masses in the hair areas on the side of the face and every secondary mass is divided into three parts, there is not function here, only decoration and a colorful mass not requiring structure or functional expression. But the head is a face and a mass of hair—two—the balance, body and members, two—and two two's for the legs; and the tail—there is the tuft at the end and one other part the smooth, two and so on through the figure. But three directions in the tail motif, three in the body it primarily stands. There are a thousand curve. The lateral or cross sections of structural parts show two main parts, as indicating function, whereas the longitudinal axis of these same parts indicate three parts, indicating a functional unity. Only in the immaterial ends and smaller divisions of the hair manes did he use two parts, and then two unequal parts. But all main parts of the body, i. e., compositions in movements relating to length of members resolve themselves into threes.

After once having conceived that numbers have a valuable relation to the ar-

rangement of composition in art and architecture, the mind naturally finds its own methods and it does not really matter what the system so long as it is a system, which recognizes the relativity of all parts in rhythm. For instance by the mere manner of handling the number three, you may indicate a series, rather than unity for which ways of doing this but it is a trick—like taking rabbits out of a hat. These methods are quite alike by nature in all individuals so that the net result is apt to be the same. Some minds however, relate the numbers to the problem more cleverly than others, just as language a common carrier, is used diversely by different minds.

Thus consideration of the number three develops the fact that the two spaces between automatically suggest the form or arrangement of five or if the spaces at the ends are considered—then seven. For the mind which reads seven, it is seven, but the seven should be so disposed so that subtly the three and the two two's are after all insistent, though ever so illusively.

Six parts suggests the more easily read combination three and three. Seven parts are really resolved into two functional elements, two two's and a three. The idea six reading the spaces between the six parts and including the spaces at the end makes thirteen. Thirteen is therefore, the limit of the two groups of three each, which is easily read by the normal mind. Thirteen is not a mystic number, it is just the expanded sense of two units, two three's, as such the perfect symbol of marriage, of God and man, and of immortality.

The arrangement of parts in architecture and in music through the use of numbers is helpful and necessary for logical construction and proper rhythm, but the inflexion and studied use of the variables involved constitutes the real art, just as in language the inflection, arrangements and various refinements, tones, etc., determine the arts of language. Numbers are useful for instruction and understanding, therefore in art, quite as much as the laws of syntax are useful in language. But they are not desirable or necessary as some writers maintain, to be used like an engineer's gridiron, whereby all of the parts of a building may be found exactly on the intersections. That is quite as absurd, as to expect leaves to grow that way.

The study of art, like the study of biology or chemistry or any other aspect of man's activity must resolve itself into an attempt to make a chronology of basic facts and to understand the law of change in that chronology. But art and architecture, beyond all other fields seems to have achieved the distinction of embodying in form—a three dimensional phase, a fourth value, the abstract idea, or the fourth dimension. Art is palpably concerned with abstractions which seems to limit its category, but in reality serves to liberate the human mind and prove new horizons. There appears on this horizon abstractions out of which properly understood, may be erected a partial understanding of a widened sense of space, or sense perception, a sense which we already have, without apprehending the law of its special order.

While the abstract message of art is outside of the sense of the three dimensional space, as for instance ideas illustrated in the categories of permanence, stability, opulence, etc., we can imagine the third dimensional space as being contained within the concept of the fourth dimension, and we must acknowledge our dependence for the present on the third dimensional world in which we live, in order to articulate our ideas.

Form may be conceived as separate from matter, color may be conceived as separate from matter. Function may be conceived as separate from matter. Therefore the combination of form and color and function may be conceived as separate from matter, from which we arrive at the notion that ideas which are created from pure or abstract form and color and function combinations are outside of the three dimensional world and are functions of a four dimensional world. In the demonstrations of art, therefore, we have the four dimensions, (1) abstract form, (2) abstract color, (3) abstract function, (4) our three

dimensional world. The idea of space is relative, it is not real, it is the fourth dimensional world which is real.

The fourth dimensional consciousness then is not limited by time or space as we know it. It is full of abstract form, abstract color, abstract functions, abstract space.

Why dawdle and play with these questions? Why not be practical? Being practical we care about fundamental law only so far as it helps us to get along our way, if it is a short cut to performance it is useful—as mere mental gymnastics it is nothing. Personally I find that the rule of three, which to me means the rule of one, two and three is of vast value in solving an innumerable number of practical problems. For instance I will put three scales in my building, two for the exterior and one for the interior. The interior may in turn be divided into two. The scales of the interior are so far different from the scales of the exterior, that the exterior scales count as a single scale by comparison. This is what we mean by "fluidity", see paragraph two, page one of Prologue. Notice the two scales in the Greek temple profiles and the two clearly marked scales in the porches of Amiens and Notre Dame. I know of no great building of antiquity in which the scale is not multiple.

The bones of beauty are mathematics and metaphysics — functional values are the muscles—kindness, graciousness, gratitude, praise, etc., is the attitude life. Thus, the position of a man's head on his shoulders will tell the student of anthropology much about the history and character of the man. The bone formation of the head will tell him much more about the history and character of this man. The flesh will illuminate the fundamentals expressed in the form of the bone and the expression given to the epidermis will further illuminate the functional arrangements of the other two factors. The bone and the flesh and the epidermis, one, two, three. This relationship is typical of a universe of functional two's and a unifying third.

Therefore two is one, and three is one, and one is one and two and three.

ARCHITECT'S RIGHT TO DAMAGES ON DISCHARGE

by CLINTON H. BLAKE

A RATHER interesting situation has been submitted by a subscriber to *Pencil Points*. It raises various questions of interest to practicing architects generally. It also suggests something of a new angle of approach to one of the oldest problems of the architect, namely, the right of the owner to terminate his employment and the rights of the parties in the event of such termination.

In the case in question, the architect and owner entered into a contract which provided in substance as follows:—The architect should prepare preliminary sketches for the sum of $100 to be paid on the delivery of the sketches. The sketches should be sufficiently full to enable preliminary estimates to be secured. If the job was proceeded with, the architect was to prepare working drawings and specifications and supervise the work to completion for a fee of ten per cent. The architect prepared the sketches, which as a matter of fact, were and these with the specifications were delivered to the owner. The latter expressed satisfaction with them, but pleaded his inability at the time to make payment of the $100. The owner asked for bids, and the architect secured these for him. The owner then stated that the cast of the work would be too much and the work was indefinitely suspended. No further communications were had between the architect and owner for about one and one-half years. The architect then learned that the owner had employed another architect to prepare new drawings for the same work and had secured a permit from the local building department for the work to be done. No work had actually, however, been undertaken.

Under the foregoing conditions, the architect proposed to sue the owner for the $100 due for the sketches and also to recover damages for the breach of a contract to employ the architect.

There is, of course, no question of the right of the architect to the $100. The sketches were prepared and submitted under a definite agreement to pay this amount for them, and the architect is entitled to receive it. The other and more interesting question raised by this rather unusual situation is far less easy of solution. The ordinary rule is that a contract of personal employment, such as the employment of a doctor, lawyer, or architect, is subject to termination at any time upon payment of the reasonable or agreed value of the services rendered up to the time the employment is terminated. On the other hand, if there is a special contract providing that the architect is to be employed in any event on a special job to the completion thereof, he would under these conditions be entitled to recover as damages the prospective profit which he would have made had his employment not been terminated. This is on the theory that the termination of his employ-

ment under such conditions would amount to a breach of the contract.

Under the circumstances of the case in question, it would seem that the contract might well be construed to be a definite agreement that the architect would be employed for the complete job if the work were proceeded with. The fact that only a nominal charge was made for the preliminary sketches strengthens this conclusion. Assuming that this is the case, however, the architect has another hurdle to negotiate. The payment of his percentage compensation was contingent, under the agreement made, on the work progressing. The architect claims that the taking out by the owner of the building permit under the second set of plans in itself is proof that the work was to progress. I doubt if this conclusion could be sustained. The taking out of the permit, on the contrary, seems to me to be merely evidence of an intention on the part of the owner to proceed with the work. If he does proceed with it, the architect should be able to recover the profit which he would have made, if he had been continued as architect as agreed. The better course for the architect, in view of these considerations, would seem to be to wait until the work has actually gone forward before bringing suit for the damages. He can, however, in the meantime, fortify his position by notifying the owner that he claims the right to act as architect, if the work is proceeded with, and that he will hold the owner liable for the damage caused him by the owner's breach of the contract.

Also, under the canons of ethics of the American Institute, an architect would, under such conditions, do well to notify the second architect who has been chosen that his prior claim has not been settled and is now legally at issue and should be adjusted before the second architect proceeds with the work.

The chief moral pointed by the present case is that, if an architect desires to vary the ordinary rule allowing the owner to terminate his employment at will, he should see to it that the agreement covering his definite employment for the complete job should be in such form that it is neither ambiguous nor uncertain. It is quite possible to frame an agreement in such a way that the architect is definitely employed and is entitled to damages if another architect is asked to supersede him. His damages in such a case ordinarily would be the profit which he would have made, had he been allowed to proceed under his agreement of employment. If, for example, this contract had provided that if, after the preliminary sketches were made, the owner decided to go ahead with working drawings, the architect who made the preliminary sketches should be employed to make the working drawings, any doubt of his right to recover would be removed.

The rule allowing the employment of a professional man to be terminated by the owner under ordinary circumstances is a sound one and in accordance both with common sense and professional ethics. On the other hand, it is often essential, as a matter of fairness, that the professional man be employed for the entire job and not merely for a preliminary stage of the job and that he be protected in this employment. Where this result is desired, the architect would do well to take advice so that he may be assured that the agreement entered into is binding and effective.

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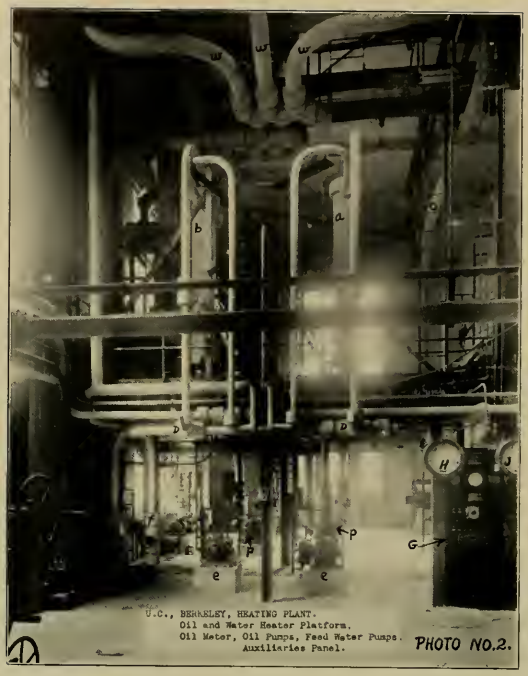
BUILDING FOR HOUSING HEATING EQUIPMENT
UNIVERSITY OF CALIFORNIA, BERKELEY
George W. Kelham, Architect

Featuring

New Gas-Fired Heating Plant at the University of California, Berkeley


U.C., BERKELEY, HEATING PLANT.
Oil and Water Heater Platform.
Oil Meter, Oil Pumps, Feed Water Pumps.
Auxiliaries Panel.
PHOTO NO.2.

GAS-FIRED STEAM PLANT AT UNIVERSITY OF CALIFORNIA

by B. F. RABER

ONE of the most modern steam heating plants on the Pacific Coast was placed in operation during 1931 on the Campus of the University of California in Berkeley. This plant, using either natural gas or oil as fuel, was ready for service January 1, 1931, and is connected to the central tunnel system by a new section of tunnel approximately one thousand feet in length. The new building is one-third of a mile directly west of the location of the old power plant on the Berkeley Campus, which has been entirely removed.

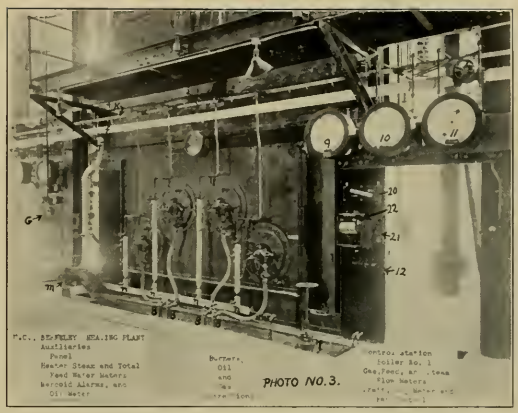
The University's first boiler plant, placed in service in 1893, was in the Mechanics Building, and consisted of two small units, using hand-fired coal as fuel. In 1904, the decision was made to assign this equipment to the exclusive uses of the Department of Mechanical and Electrical Engineering and to install a new plant in a special brick building placed just south of the location where Wheeler Hall was subsequently constructed. Here, four boilers using oil

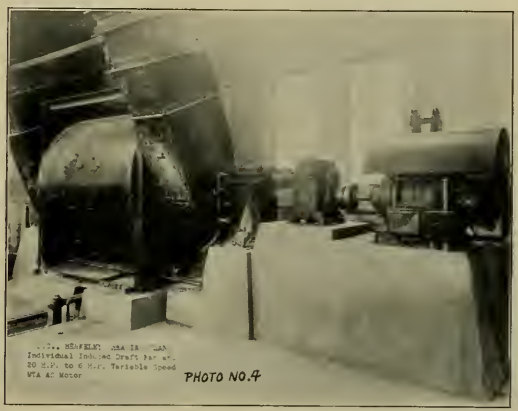
* Professor B. F. Raber of the College of Engineering, University of California, is a well-known authority on steam and thermodynamic work. He was in charge of the equipment selection, arrangement and interior design of the new heating installation.

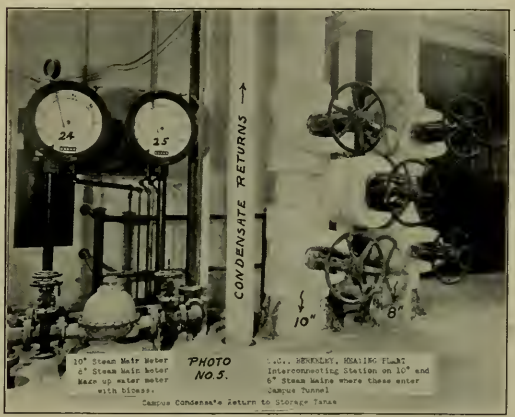
fuel were installed, each of 108 h.p., which supplied steam to the heating system and to a MacIntosh reciprocating engine and generator. This plant served the institution until 1918, when an addition was necessary to accommodate a 600 h.p. boiler, and in 1924, a duplicate of this larger boiler was added. During the growth of this plant, the underground service lines were gradually extended to the various buildings and the coal-burning stoves for heating actually disappeared. In 1928, the Campus at Davis required a heating plant, and economical consideration dictated the removal of the four 108 h.p. boilers to that location, since these were in excellent condition but had become too small for the Berkeley Campus.

Thus there remained in the old brick building at Berkeley only two 600 h.p. boilers. With the appearance in the Bay region of the new and highly desirable natural gas fuel, and because of the position and inadequacy of the 1200 h.p. plant, the decision was made to move the two boilers to a more appropriate location; to add two boilers of the same general construction; and to build a new plant to burn with equal facility and maximum efficiency either natural gas or fuel oil. As a result, the University is now economically generating steam from natural gas as fuel, in one of the very few plants in the Bay region especially designed for that fuel; for most of the natural gas installations are in plants converted from oil fuel to natural gas by installing the latter in furnaces originally designed for oil fuel only.

A view of the new building shows a pleasing exterior, harmonious in treatment with the other permanent structures upon the campus. This design is from the office of the University Supervising Architect, George W. Kelham. The structure presents a clear interior working space of 94 ft. in width, 74 ft. in length and 40 ft. in height, and may be extended as needed by adding to the 74 ft. dimension. The parapet walls effectively screen even the short individual boiler stacks from view; and since, with gas fuel, no trace of smoke is visible, many persons pass the building







without realizing the nature or purpose of the interior equipment.

The east and west doors of the structure give access directly to the main firing aisle of the building, and to the single floor upon which most of the equipment has been placed. The natural gas fuel is delivered into the building under 10 lbs. per square inch gauge pressure, and requires no conditioning equipment of any kind. This fuel, therefore, is represented by no equipment whatsoever in the auxiliary aisle.

At W in Fig. 2 are shown the three overhead tank connections by which the boiler feed water flows to the deaerating heater immediately back of oil heater, b. After being deaerated and raised in temperature to approximately 225 degrees F., the water flows into the feed water pumps, p, wherein the pressure is raised to approximately 200 lbs. per square inch, and is then delivered through the connection, 0, to the automatic feed water regulators on the boilers. The meter shown at H records and indicates the steam flowing to the water heater and meter J records and indicates the total feed water to the boilers.

Natural gas at 70 to 90 lbs. per square inch gauge pressure is brought to an underground metering station outside the building, where the pressure is reduced to 10 lbs., and the gas is then conveyed by appropriate piping in trenches under the floor to the main boiler control valve shown at 7 in Fig. 3. At 8 are indicated the individual gas taps and valves supplying the burner heads through flexible metal hose connections. Natural gas for the boiler is controlled for all burners at the hand wheel of valve 7, by which the pressure is reduced to the range from three to eight pounds per square inch, depending upon the boiler load. Meter 9 indicates and records the volume of gas being used by this boiler, meter 10 indicates and records the flow of feed water as controlled by the automatic feed water regulators, and meter 11 indicates the load, in thousands of pounds of steam per hour, at which the boiler is operating, and it is this indicator that is used in balancing loads between boilers, or in carrying any given individual load.

The efficiency with which the conversion from heat to steam takes place, of course, depends very largely upon the accuracy of the control of air-to-fuel ratio which the attendant uses in the boiler furnace. If an excess of air is used, it carries unnecessary heat losses up the stack, whereas if too small an amount of air is used, only part of the fuel burns. To aid in this adjustment, the combustion control panel shown at 12 is provided. Near the top of the panel, at 20, is the inclined draft gauge, and at 21 is the push button station by which remote control is obtained on the speed of the induced draft fan. The index of the air-to-fuel ratio used in the furnace is plotted continuously by the instrument 22, which determines the percentage of carbon dioxide in the stack gases. With gas fuel, the best furnace condition is usually found at about eleven per cent carbon dioxide. It is by the indications of this recorder that the fireman adjusts the air vane openings and the fan speeds to obtain the most economical combustion conditions within the furnace.

Under normal operations, and with natural gas as fuel, the complete boiler performance is controlled by using the equipments numbered 7, 11, 20, 21 and 22. Four such control stations for the four boilers are arranged in adjacent pairs on either side of the center of the station firing aisle. By this arrangement, all four boilers have complete furnace controls and load indicators mounted above a floor area about 18 feet square. This area is the operating center under normal conditions. The boiler partially shown in photograph No. 3 is one of a pair, each having a rating of approximately 685 boiler h.p., and so installed that 200 per cent of rating may be obtained readily on either natural gas or fuel oil. This No. 1 boiler has carried the entire campus load, when it operated at 217 per cent of rating. The remaining pair of boilers when moved from the old plant, will have a rating of approximately 600 boiler h.p. each. The total rating of the four boilers is, therefore, approximately 2570 h.p., with an overhead capacity of twice this rating.

The requisite draft for each boiler is obtained by an induced draft fan installed on the main floor and to the rear of the boiler, and shown in photograph No. 4. The fan is driven through reducing gears by an alternating current variable speed motor, adjusted as to speed from the firing aisle by the push button control on panel 12. Each fan has a separate stub stack delivering the gases to a point about one foot above the parapet wall of the building. The boilers are not connected by a common breeching. This is a point in design for maximum safety against furnace explosions, as there can be no ignition through a breeching of the fuel which may inadvertently leak into the furnace of an idle boiler, such as has been known to occur when common breechings are used with a single fan.

The design of this boiler installation has been kept extremely simple. As installed, the boilers are quite high in efficiency, averaging about 80 per cent at full load, and the stack gases are then about 380° F. temperature, whereas the steam temperature as generated is 355°, giving a terminal difference of only about 25° between stack temperature and steam temperature.

The saturated steam made by the boilers at 125 lbs. per square inch gauge pressure is collected by a 10-inch steam header loop, the two ends of which pass through the station floor as an eight and a ten-inch tunnel main, at the location shown in photograph No. 5. The five valves constitute the first of several interconnecting stations, allowing the campus distribution system to be carried by sections on either the 8-inch tunnel steam main, or the 10-inch or both. The 6-inch condensate returns main is also shown where it rises out of the tunnel to deliver the condensed steam back to the elevated storage tanks. The two recording, integrating and indicating meters numbered 24 and 25 are respectively on the 10-inch and the 8-inch tunnel steam mains, and constantly record the total pounds of steam each main delivers to the campus. This assembly is so placed near the main floor that the valves and meters are readily accessible. From this point the underground system carries steam to all campus buildings. The longest transmission is through the steam line to the International House, which line is slightly over one mile in length.

VALUE OF GOOD ENGINEERING INSPECTION SERVICE

By Watson Vredenbargh

GOOD engineering practice has established the necessity of the supervision of engineering work during its entire progress. The supervision of the manufacture of materials is as essential as that of checking the design and the plans, or supervising the work in the field. Such supervision is rarely necessary as regards the management of the manufacture. It is fair to assume that all manufacturers operate their business with the idea of giving good value under their contracts, and no manufacturer could long exist if he carried out the policy of constantly and intentionally evading his contract obligations. However, when the details of manufacture are considered, it should be realized that most of it is piece work, and is done by craftsmen who have certain limitations to observe. They have a personal incentive to do their work hurriedly and are under constant pressure of their superiors.

It is work as done by the workmen that requires thorough and careful inspection, and it is fair to state that the attitude of the managements of a great majority of manufacurers is to support such inspection, when it is done by an intelligent and experienced inspector who so adapts his inspection as to discover the defects and errors as early in the work as possible, and who cooperates with the management in the output of good work with the least expense to the manufacturer. The question may well be asked

—What is the use of drawing plans, specifications and contracts, unless steps are taken to determine whether they are being carried out?

An important feature of the supervision of manufacture is the value of having a representative at the points of manufacture whereby the progress of the work is known and the shipment of the finished product can be had at the time and in the order necessary for expeditious and economical erection or proper use in the construction work.

A further reason for such supervision by inspection is in having a record whereby the quality of material and workmanship is attested to and may be useful in placing the responsibility for subsequent possible failure, or in relieving from responsibility those interested who should properly be relieved from the same. It is not inconceivable that an engineer or architect who fails to provide for the supervision of manufacture or erection may be held responsible for noncompliance with plans or specifications, damage or loss of life resulting from any failure at erection or thereafter in the construction of buildings and bridges, and the construction or operation of railroads, public service works and manufacturing plants.

Functions of Inspecting Engineer

Supervision of the manufacture may be made by employees of an engineer or architect or by the employment of inspecting engineers who make a specialty of such work. The reasons for the existence of the latter are primarily that the manufacture of materials is conducted at various points and in progress at the same time, and frequently intermittent. If an engineer or architect uses his own employees for this work, it is essential that several or more men be employed; and there is, consequently, much waste of time and of traveling expenses. To meet this situation, the independent inspecting engineer establishes an organization of experienced men who are permanently located at the various manufacturing centers, and, by competent supervision of their work, makes use of their time over a number of contracts, thereby tending to efficiency and economy. Such a concern, presumably, has a wide knowledge of shop methods and from experience is able to handle the defects arising during manufacture with some advantage of practical knowledge, and has personal acquaintance and constant business relations with the shop management.

The fact that inspection is not insurance should be appreciated. The inspector is not responsible for the design, specifications, sufficiency of tests, or the plant management, but is an expert witness whose duty it is to see and report conditions and to conduct supervision in such a manner as to improve the character of the materials and workmanship, and give an accurate record thereof. The responsibility for compliance with plans and specifications and general good practice rests primarily with the manufacturer. The responsibility of an inspector is for intelligent and faithful supervision and accurate record, in accordance with the established and specified practice of tests and standards of workmanship.

The position of the inspector is that of a representative of the owner employed through and in conjunction with, the engineer or architect, duly appointed as representative of the owner. If inspecting engineers have charge of the work, they are associates of the engineer or architect in something of a professional capacity. In either case the quality of inspection is evidently dependent, as is all professional work, upon the experience and number of men on the work; and it is unavoidable that this arrangement is dependent upon the compensation allowed.

Quality of Inspection

From the above it will be recognized that the quality of inspection must, according to the rule that applies to all business, be in direct proportion to the compensation. To be of genuine value, inspection must be constant, intelligent, and complete. A final inspection may determine the satisfactory compliance with the contract, but cannot, generally, secure the satisfactory correction

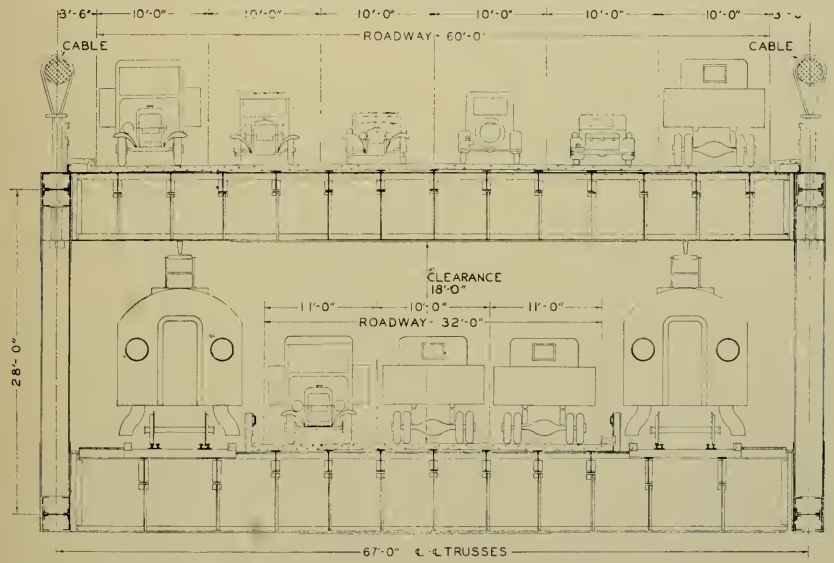
[Please turn to Page 72]

STRUCTURAL ENGINEERS VIEW MODELS OF SAN FRANCISCO BAY BRIDGE

by FRED'K. W. JONES.

NEARLY one hundred members of the Structural Engineers Association of Northern California and invited guests, viewed the models of the proposed San Francisco - Oakland Bay Bridge at the University of California, Berkeley, Tuesday evening, November 17th. Before visiting the Engineering Materials Laboratory where the models are, the members partook of a dinner at the International House. H. J. Brunnier, President of the Association, presided. Departing from the usual custom of getting acquainted at banquets of this type, Mr. Brunnier called upon each member and each guest to rise from his place at the table and announce his full name and business, or professional connection. This unique procedure contributed greatly to the success of the affair and its effect was spontaneous in making everyone feel at ease.

Several short talks on the progress that has been made to date on the Bay Bridge plans and models were given and these introductory remarks prepared the way for a better appreciation and understanding of the model work viewed later on. Charles E. Andrew, Department Bridge Engineer, outlined some of the general features of the bridge and Glenn B. Woodruff, in charge of the design, discussed some of the more difficult problems connected with this feature of the structure. Professor R. E. Davis gave a general description of the models and complimented Professor



CROSS SECTION WEST BAY SPAN, SAN FRANCISCO-OAKLAND BAY BRIDGE
Department of Public Works, State of California

George E. Beggs of Princeton University who had charge of the modeling.

The use of models for architectural work, and hydraulic experiments has been followed for a number of years, but structural models are comparatively new and it is the opinion of leading engineers that the profession is on the eve of a new era in model design. This refers to structures of considerable magnitude and great cost.

Before viewing the models in the Engineers' Building, several short talks were given, followed by a general discussion. R. A. Tudor spoke upon the value of models in structural design and gave his conclusions regarding the use of same. L. A. Ledgett spoke on the details of the models and L. M. Roberts discussed the construction and erection methods. A short description of the instruments used in making load tests and stresses was given by P. M. Fletcher and a complete summary of the model test to date was illustrated with lantern slides by H. E. Davis.

The models show a bridge of the suspension type between San Francisco and Yerba Buena Island and a cantilever structure and fixed spans between the Island and the mainland of Oakland. The cost of the bridge is expected to be within the original estimate made by the State Engineering Department of $75,000,000. There are now about 54 engineers engaged in work on the project, including men of exceptional ability. Local engineers have been employed as far as possible with the result that out of some 54 employees only four are from without California. The designing force will be gradually recruited to a personnel of from 60 to 65.

The Consulting Board has approved the general cross sections of the bridge and required traffic capacity, consisting of a double decked structure with six lanes of auto traffic on the upper deck, and three lanes for auto trucks and two electric inter-urban tracks on the lower deck.

The consulting board is composed of Ralph Modjeska of New York City, chairman; Daniel E. Moran of Moran & Proctor, Leon Moisseiff, consulting structural engineer, Professor Charles Derleth of the University of California and H. J. Brunnier, C. E., of San Francisco.

VALUE OF GOOD ENGINEERING INSPECTION SERVICE

[Continued from Page 70]

of errors, and certainly cannot prevent them or tend to the improvement of the work. The tests of quality of inspection are the experience of the man directly on the work, the time spent on it, and the quality of the final record. These tests apply equally to the work of direct employees and to that of inspecting engineers. The latter may properly make a profit from the favorable combination of work at rolling mills and fabricating plants or manufacturing shops, and from the saving of time and traveling expenses; but any profit from the neglect of work by insufficient attention or from the employment of underpaid employees is improper.

The architect and engineer, if he desires to secure the best inspection by inspecting engineers, should consider the experience and reputation of the firm with whom he proposes to deal, should know the experience of the men to be employed upon the work, and should critically examine the character of the record furnished him. He may properly demand information as to the time of the man employed upon the work.

Records covering a large volume of important inspection service are replete with examples of valuable results accomplished.

Methods of Payment

The usual method of payment of inspection services when done by inspecting engineers is at a unit price. This always should be per unit of material or workmanship inspected and not per unit accepted, for the reason that it is undesirable to put a premium upon the acceptance of work which may be defective or doubtful. With knowledge as to the quality of inspection, as

noted above, the method of payment by unit inspected is satisfactory; but if an engineer or architect is doubtful as to the character of the work that is to be done, he may arrange his terms on a basis of the cost of the actual time of the man employed on the work, plus a percentage to the inspecting engineers for organization and supervision. The last course he should take is the placing of inspection work under competition to the lowest bidder. Such a course must mean not only his willingness but his demand for the least attention by the lowest salaried men available. A moment's consideration will convince any one that the proportion of profit to inspectors must remain the same or increase, whereas the proportion of loyalty and conscience must diminish.

Payment for inspection of building materials is not a part of the obligation of the engineer or architect, but is that of the owner. The strong engineer or architect will not evade this question, but will either demand that the owner make such provision and leave the engineer or architect the right to choose his associates; or he will provide in the specifications that the inspection shall be paid for by the contractor as a part of his work and a direct charge against the owner, but shall be arranged for by the engineer or architect at a specified price, and that the inspectors shall be responsible solely to the engineer or architect representing the owner.

The arrangement whereby the general contractor or the manufacturing contractor is permitted to bargain for inspection service is fundamentally unsound and should positively be avoided. Such a method is an invitation for the cheapest service and naturally directs a division of responsibility to where it does not belong. Where the specifications provide for the character of and payment for inspection, all contractors are placed on an equal basis of figuring for this item, and, it being a direct charge against the owner, no contractor should be permitted to bargain for a profit from this item of the contract.

A TRIP TO TWAIN'S RENDEZVOUS

The country made famous by Mark Twain and his jumping frog, the country, too, that once yielded a wealth of gold, was visited the week end of November 22 by thirty pleasure-seeking members of the San Francisco Architectural Club. Their real objective point was the plant of the Calaveras Cement Company at San Andreas—the plant that supplied all of the cement for the Pardee and Calaveras dams. In spite of the

SNAP-SHOT OF SAN FRANCISCO ARCHITECTURAL CLUB MEMBERS ON A WEEK-END VISIT TO CALAVERAS CEMENT PLANT

inclement weather the boys were shown the "works," from the gathering of deposits used in the making of cement, to shipment in self closing sacks. The new plastic early-hardening tests were also explained, and then the visitors were dined at the Kentucky House, with Messrs. Jellick, Vaughn and Baumgartner acting as hosts. Wong, the company's famous chef, was in charge of the menu which included delicious fried chicken and all the trimmings, prepared in Wong's own inimitable way. Dinner over, games were enjoyed until a late hour. The party were guests over night, returning home late on Sunday.

Moved, seconded and carried without a dissenting vote, that the affair was a most enjoyable one—long to be remembered as an event in the 1931 history of the S. F. A. C.

SCHOOL ADDITION

A. M. Edelman and A. C. Zimmerman, 824 H. W. Hellman Building, have been commissioned by the Los Angeles board of education to prepare plans for an eight-unit addition to be erected at the 74th Street school, 2132 W. 74th Street, Los Angeles.

The ARCHITECT'S VIEWPOINT

¶ *More Anent the Government in the Architectural Business*

¶ *Quality of Our Architects is Improving*

¶ *Make the Schools More Homelike*

CONTRIBUTING EDITORS

CLARENCE R. WARD . . . *San Francisco*

CARLETON M. WINSLOW . *Los Angeles*

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ON September 12th a conference was held in Spokane, Washington, for the discussion of the question that has been of much importance in construction circles during the past year, namely, "The Government in the Architectural Business". The writer attended this meeting and felt, upon conclusion, as unquestionably all present felt, that it was a highly successful affair.

The meeting was organized and made possible through the very effective effort of the Construction and Industries Committee of the Spokane Chamber of Commerce, Mr. J. I. Kinman, chairman.

One of the significant facts observed at this particular gathering was the interest taken in the subject under consideration by the several senators and congressmen present; that is, interest in the welfare of the private architect, the local contractor and the material dealer.

The opinion expressed unanimously by the speakers was one heartily in favor of the use of local talent and local materials. It was certainly pleasing for those within the industry to note the emphatic feeling expressed by these men, and to know that their attitude was so heartily sympathetic.

This Spokane meeting was one of many held in various parts of the country to discuss this subject. The start has been made, may we not fail to carry on.

* * *

PROOF that our most capable architects are men in private practice is not difficult to find. In almost every large center in the United States, or in any country for that matter, the finest structures are the work of men in private practice.

The buildings designed in the bureaus in Washington are unquestionably above the average in quality (they should be for their per cubic foot cost is ample) but seldom are they outstanding. How much more our public buildings would mean to our people if they possessed more of the local atmosphere, contained materials native to the locality, and were truly the product of the handiwork of our own citizenry.

The city hall in Stockholm is known throughout the world. It has a character that is not alone national, but is full of local sentiment. This sentiment in no way interferes with its proper functioning. The townspeople have an unusual pride in the possession of this, their own building.

The people of Europe, and especially those of northern Europe, must feel keenly and regard as highly important, their local traditions. A condition such as we have with our government doing the designing of public buildings by formula would be looked upon with great disfavor. There is much that these people do which we could and should emulate.

It would seem that in an age when changes are made so rapidly, and knowledge is so universal, or at least so easily available, that we would not have to be forever

saying, "Oh, but this is such a very new country". If we could but profit by the experience of the more enlightened, real progress would then take place in all things, especially in civic improvement.

Why is it that beauty consciousness in our people has not grown equally with our scientific and mechanical knowledge? As far as architecture is concerned, some men claim the fault lies with the architects themselves, while others contend the problem is a lack of public good taste. Undoubtedly it is both.

* * *

A NATIONALLY known architect said recently at a meeting, that although the quality of our architects had improved greatly in the last decade, there are, nevertheless, a vast number who are not worthy of the title. The various state examining boards are created to help this condition, though the process is necessarily a long one.

Then what about the other phase of the dilemma—the unenlightened public? Are present day children to become like their parents, adults who have so little aesthetic feeling or discernment that they cannot select a decently designed piece of furniture for their homes? Will they value comfort and convenience less than a gilded lily? It is true that this is a real task to find the decent chair. However, the furniture dealer's answer is "We do not stock the thing you describe, there is no demand for it." The architects must start an educational campaign in the schools—this is of greatest importance.

We must convince most school boards and many architects that the schools themselves must have a high degree of beauty. The desirable quality is not to be the same impressive grandeur of a city hall, or a monolithic concrete Parthenon, but a charming, intimate, friendly beauty. Qualities which have a meaning to the child are the sought for qualities.

Why should not the schools be a little bit homelike, for after all the youngsters spend a great part of their lives in them. These are perhaps the most impressive years of their lives. They can be so designed, for there are several such in California.

The prominent architect mentioned above also said that, "We have talking architects and doing architects". It is a sincere hope that sounding off in this column occasionally will not place one in the first group. God forbid!

* * *

D URING the last two or three years, most of our architects have had a greater amount of time which could be devoted to thought and meditation concerning the past, the present, and the future of their profession. Please note the avoidance of the word "depression" in the foregoing sentence. Nevertheless, we have meditated a great deal.

Most of these architect philosophers have already stated that architecture is in a state of flux with the outcome somewhat in doubt. It will be most interesting to note, perhaps ten years hence, how the pendulum has swung, or in which direction it is swinging.

Judging the state of affairs in pure design at this moment, current thought is of a widely divergent opinion. On one extreme we have the picturesque antiquarians, who are bound to neither land nor time, while on the other are the exponents of more and better uses for gas pipe. It is difficult to make a choice between these two extremes. No one can say with authority that either is preferable to the other.

After studying the labored and affected efforts to be Norman farmhouse circa 1640 A. D., oil burner and bathroom fittings excepted, one comes upon the cantilever slab and pipe post with a sigh of relief. However, this gladness is but temporary, for it is so difficult to visualize a plain American citizen domiciled in this immobile Pullman coach, with gondola attachment. Please don't be misled, we are not worried—we are just meditating.

HAROLD W. DOTY, A. I. A.

WITH *the* ARCHITECTS

THE SANTA BARBARA COMPETITION

The Plans and Planting branch of the Community Arts Association, through its vice-chairman, John Frederic Murphy, has announced that drawings made for the proposed Roadside commercial group competition, the program of which was published in the October issue of this magazine, may be resubmitted when sufficient funds have been raised to make the competition possible. Requirements for drawings will not be changed when the program is finally submitted, according to Mr. Murphy. Special notices will be sent to individuals whose addresses have been secured from drawings heretofore submitted, and the competition will be advertised through all possible channels.

COLUMBUS MEMORIAL ARCHITECT

J. L. Gleave of England has been selected as architect for the proposed Columbus Memorial Lighthouse to be erected by the Dominican government to mark the first landing place of Christopher Columbus in the western hemisphere.

Announcement of the selection was made at a recent meeting of the governing board of the Pan American Union at Washington.

Selection of an architect was made by a world-wide competition conducted in two stages, the drawings submitted being judged by an international jury. The next step will be the raising of funds to build the lighthouse.

GRANTED CERTIFICATES

The California State Board of Architectural Examiners, Southern District, granted provisional certificates on October 27 to the following: Georgius Young Cannon, 1208 N. Garfield Ave., Pasadena; Harold Alfred Edmonson, 228 S. Normandie Ave., Los Angeles; Howard George Elwell, 6211 Vinevale, Bell; James R. Friend, 343 Temple Ave., Long Beach; Melvin N. Garlough, 624 N. Plymouth Blvd., Los Angeles; Cassatt Davis Griffin, 1709 W. 25th St., Los Angeles; Wayman Francis Parsons, 8 Gibson-Drexler Building, Santa Maria.

SAN MATEO STORE BUILDING

Bertz, Winter & Maury, 210 Post Street, San Francisco, have completed plans and a contract has been awarded to G. P. W. Jensen, for the construction of a two story and basement reinforced concrete store and loft building on 3rd Avenue, San Mateo. The owners are Stelling and Gould of San Francisco, who intend to improve other property in the same city when leases have been closed.

TO HAVE NEW QUARTERS

The L. H. Bennett Company, Ltd., distributors for General Electric refrigeration, are having extensive alterations made to the Kittredge Building, on the southwest corner of Sutter and Stockton Streets, San Francisco, which will become the company's headquarters. Plans for the alteration work were prepared by F. Eugene Barton, architect, Crocker Building, San Francisco.

LOS ANGELES WAREHOUSE

Messrs. Couchot, Rosenwald & Roeth, 525 Market Street, San Francisco, have completed plans and a contract has been awarded to the Clinton Construction Company for a one story, steel frame and brick warehouse on East Vermont Avenue, Los Angeles, for the Safeway Stores, Inc. The building will be 326x155 feet and will cost in excess of $100,000.

TO BUILD TRANSIT SHED

The Oakland Port Commission will start construction in January of an extension to No. 2 transit shed, foot of 14th Street, Outer Harbor of the City of Oakland. The plans for a building, 180x360 feet, are being completed by the drafting department of the Port Commission. An estimate of $100,000 has been placed on the cost of the work.

BEVERLY HILLS FIRE STATION

Plans have been completed for a $50,000 building for the Beverly Hills fire department. The architects are Koerner & Gage, 468 North Camden Drive, Beverly Hills.

UNIVERSITY GYMNASIUM

Construction has been started on the new gymnasium at the University of California, Berkeley, from plans by George W. Kelham. The Dinwiddie Construction Company was awarded the contract, being given a preference of $3000 over the low bidder whose bid failed to comply with the conditions prescribed by the Regents. The Judson Pacific Company will furnish the structural steel of which there will be approximately 1000 tons.

FABRE & HILDEBRAND BUSY

New work in the office of Fabre & Hildebrand, architects, San Francisco, includes the reconstruction of a winter garden dance hall at Modesto, which was recently gutted by fire. The firm has also completed plans for an $8000 residence at 17th and Ord Streets, San Francisco, and for which a contract has been awarded to William McIntosh.

TELEPHONE EXCHANGE

Contracts have been awarded to McDonald & Kahn, San Francisco, for a two story Class A telephone exchange building to be built on the southeast corner of Pine and Steiner Streets, San Francisco, for the Pacific Telephone & Telegraph Company. More than $200,000 will be expended on the improvements.

MONTEREY POST OFFFICE

The Federal Government has approved preliminary plans by W. O. Raiguel of Del Monte for a post office building at Monterey. The design is old Monterey type, of reinforced concrete and tile roof. The appropriation for the building is $150,000.

SONOMA THEATER

Reid Brothers, architects, of San Francisco, have completed plans for a one story steel frame and concrete moving picture theater to be built at Sonoma for Samuel Sebastiani. The auditorium will seat five hundred and the building will cost $50,000.

SEATTLE ART MUSEUM

Messrs. Bebb & Gould, Seattle, are the architects for an art museum in Volunteer Park, Seattle, to cost $250,000. Funds were donated by Richard E. and Margaret Fuller.

ABOUT CANCELLED LICENSES

Albert J. Evers, President of the Northern District, California State Board of Architectural Examiners, states that in answer to an Oakland subscriber in the November issue of THE ARCHITECT AND ENGINEER, an architect whose license has been cancelled for failure to pay his fee, may apply to the Board for a new license and his application will be given consideration. If his record in the past has been satisfactory, a new examination will not be necessary except that he will be asked to pass a general oral test. Once a license is revoked that license cannot be renewed, but a new license may be issued if, in the opinion of the members of the board, the applicant is worthy of same.

An instance of where an architect previously in good standing neglected to pay his license fee on account of absence from the city, with the result that his license was cancelled was cited by Mr. Evers who explained that the board required him to take an oral examination before granting him a new certificate.

John J. Donovan states that the members of the board are ever ready to lend a sympathetic ear to an architect who has encountered difficulties such as experienced by the Oakland architect.

PERSONALS

An office for the general practice of architecture was opened in Wenatchee recently by John W. Maloney, A. I. A., and Wallace W. MacDonald, who has been in Mr. Maloney's Yakima office the last year and a half.

EARL W. MORRISON, architect, has moved his office and staff to new quarters on the 17th floor of the Textile Tower, Seattle. The staff consists of Bert Booth and Harry Myers, draftsmen, and Mrs. Genevieve Moore, secretary. Mr. Booth recently returned from a three weeks' vacation spent in California, mostly at Carmel-by-the-Sea.

FLOYD A. NARAMORE, Seattle school architect, has moved his office into the suite occupied by Schack and Young, 511 Central Building. He previously occupied a suite on the sixth floor under the firm name of Naramore and Menke.

GRANTED CERTIFICATE TO PRACTICE

Rolf M. Eskil, of Carmel, has been granted a provisional certificate to practice architecture by the Northern District, California State Board of Architectural Examiners.

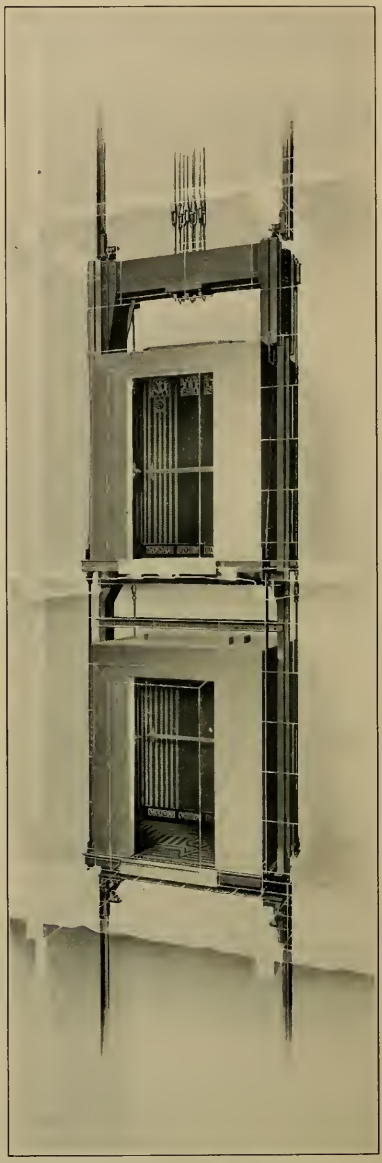
DOUBLE-DECK ELEVATORS PAVE WAY FOR HIGHER BUILDINGS

FOR the first time in the history of building construction double-deck elevators have been installed in a skyscraper. The building in question is the new 67-story home of the Henry L. Doherty and Cities Service Companies at Cedar, Pine and Pearl Streets, in the heart of New York's downtown financial district. This forward step in vertical transportation, at last permitted by special provision in the new elevator code, has long been awaited by the industry as the solution to the problem of tall building economics.

The strict zoning laws in New York and other large cities often reduce tower areas to such an extent that one of two equally undesirable alternatives is the result: either the elevators require so much floor area that adequate rentable space cannot be obtained on the tower floors, or the number of elevators is reduced at the expense of good service. It had long been felt by architects and engineers that increasing the handling capacity of an elevator shaft was the only way out of the difficulty. Experiments in double-deck elevatoring have been in progress for the last few years, simultaneously with the movement to have the code revised to permit that type of installation.

In the Cities Service Building eight high-rise, double-deck Otis elevators will serve all floors from the 29th to the 63rd, the lower floors being served by seven cars running from the 16th to the 29th, and the remaining lower floors by eight others. In addition, another innovation in office building transportation has been installed—escalators to handle the rush-hour crowds between the 6th floor and the basement.

The double-deck elevator consists of two separate compartments mounted in a single car frame, or more simply a two-story car. It will be driven by a single hoisting engine, and controlled basically in the same manner as the standard signal control elevator. Both compartments are loaded at the same time, one from the ground floor, and the upper one from the first floor. Passengers are discharged at the upper floors at the same time, one compartment serving only the odd or even-



DOUBLE COMPARTMENT ELEVATOR ASSEMBLY WITH PHANTOM CORRIDOR WALLS

numbered floors, and the other only the alternate floors.

Each compartment has a capacity of 2500 pounds, each is equipped with the standard signal control operating devices, and each is operated by an attendant. Trap doors are installed to permit emergency access between compartments, and speaking tubes are provided for easy communication between compartments. During the night, when transportation requirements are reduced to almost nothing, a single remote-control switch will permit all double-deck elevators to be run as single decks. At such times, all operating devices are effective from one compartment only.

Obviously, special operating devices were required to coordinate the starting and stopping movements of the two cabs. The elevator will start only when the operating handles of both compartments are in the full "start" position and all car and hatchway doors are closed. By the same automatic devices which stop single-deck cars at floor level, the floors of both cabs will stop level with the desired floors in the double-deck system. The doors of both cabs will not open, however, unless calls have been registered for both floors at which the car stops. For instance, if the button for the 48th floor has been pushed, and the button for the 49th floor has not been pushed, only the door of the lower cab will open when the car stops at these levels.

If, however, the hall button for the 49th floor is pushed before the operating handle in the lower compartment has been set in the full start position, the hall light on the 49th floor will light immediately, and the doors of the upper compartment will open. If the start has been initiated before the button on the 49th floor has been pushed, the call will be transferred to the next elevator approaching the floor in the desired direction.

To keep the operators of each cab informed about the activities in the other cab, a door pilot light is provided in the operating box of each compartment. The light is illuminated when the doors of the other cab are open, and is extinguished when they start to close. The timing devices for these coordinating movements have been perfected to such an extent that there is no possibility of accident from open doors. As an additional precaution, a car safety switch has been installed in both compartments, operating of which immediately stops the elevator.

The frame supporting both compartments has an over-all height of 25 feet. Any one of the eight special steel traction hoisting ropes is more than capable of carrying the combined weight of both compartments, each carrying its full-rated load of 2500 pounds plus the weight of the frame. Clamp car safeties, consisting of two sets of powerful rail-gripping jaws, are mounted at both the top and bottom of the car-safety frame.

Apart from the engineering achievement which has been accomplished by the Otis Elevator Company in perfecting the double-deck elevator, the successful operation of the system in the Cities Service Building will have a tremendous influence upon tall building design and construction. In this particular building, before the elevator code had been revised, it was deemed necessary to install fourteen single-deck elevators to serve the floors which will be served by the eight double-deck elevators. When it is considered that each shaft requires approximately 50 square feet of space on every floor, and that fourteen shafts would have to run from the ground floor to the top of the building, it will be seen what a tremedous saving of valuable floor space was afforded by the installation. Eight less shafts, fifty square feet each, sixty stories—the result is a saving of 24,000 square feet. The probable increased revenue, on the current basis in the new buildings in the financial district, $3.50 per square foot, would be $84,000.

It is interesting to note that this remarkable development in elevator engineering has been sponsored by the same company which nearly eighty years ago startled the world with the first power-driven elevator of any type. It was at the Crystal Palace Industrial Exposition in New York in 1853 that Elisha Graves Otis astonished his countrymen with his "contraption." Now the Otis Elevator Company has sponsored the most advanced step in the science of elevatoring since that time.

The architects for the Cities Service Building were Clinton & Russell, and Holton & George. James Stewart & Company were the builders.

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STATE BOARD ACTIVE

Ray Coney and Marcell Marquis were found guilty of practicing architecture in California without a license in violation of the state law regulating the practice of architecture, according to a statement issued by H. H. Gutterson, secretary of the State Board of Architectural Examiners. The case was heard by Judge Clark at Pleasanton, Alameda county. The defendants as representatives of Melrose Steel Company, were also held to answer to the superior court by Judge J. J. Allen on a charge of conspiracy to defraud in connection with contracts for a number of oil service stations. The cases were prosecuted by Assistant District Attorney Harry E. Styles, the state being represented by H. E. Bolton.

HIGHWAY TUNNEL PLAN

Preliminary drawings have been completed by County Engineers George A. Posey, Oakland, and R. R. Arnold, Martinez, for a reinforced concrete tunnel 3184 feet long from the foot of Broadway, Oakland, into Contra Costa County. This bore will do away with the old wooden tunnel which joins the two counties at the end of Tunnel Road. The estimated cost of the bore is $4,497,000.00 and the financing is expected to be accomplished by the issuance of revenue bonds and the state gasoline tax. An effort will be made to start on the Oakland end of the tunnel early the coming year, as a special relief measure for the unemployed.

JUNIOR HIGH SCHOOL

Preliminary plans have been taken for the formation of a Junior High School District at Niles, California. The District would include Washington, Pleasanton, Murray and Eden townships. W. H. Ford of the Niles Sand & Gravel Company has offered to contribute $100,000 toward a $250,000 high school plant.

FREE HAND DECORATING

All of the free hand decorating in the E. J. Sweetland house illustrated in THE ARCHITECT AND ENGINEER in the November issue, was executed by Frank W. Bergman, 293 Corbett Street, San Francisco. Mr. Bergman's contract included stenciling all of the hall ceilings and some ingenius modernistic figures in the bath rooms.

SAN MATEO COUNTY BUILDING

Three houses are under construction in San Mateo County by the George W. Williams Company, Ltd. One is in Hillsborough for Wilson H. Bennett and two are in Burlingame.

SOCIETY and CLUB MEETINGS

WASHINGTON STATE CHAPTER

Twenty-four members of the Washington State Chapter of the American Institute of Architects were guests of the faculty and students of the department of architecture of the University of Washington, Seattle, November 5th. In place of the annual banquet, members and students had dinner together at the Pine Tree Inn in the Shopping Tower. Roland E. Borhek of Tacoma presided.

The proposed Seattle city ordinance for levying fees for building permits was vigorously condemned. Mr. Gowen gave a professional description of the strange Angkor Temple in Cambodia. He also read the proceedings of the construction industry committee of the Spokane Chamber of Commerce in conference with Robert D. Kohn of New York City, president of the A. I. A.

The secretary read a letter from Philip Tindall, president of the Seattle City Council, requesting the appointment of a representative from the Chapter to serve on an advisory committee relative to a statue under consideration for a war monument for Seattle. This was referred to the Civic Design Committee.

Other business before the meeting included proposals for committees from the Chapter to act with similar committees from the State Society for the consideration of the program for unification of the profession and for co-ordination with the building industry, as suggested at the meeting with President Kohn on the evening of October 22. For unification, the appointment of the committee was left to the president; and for co-operation with industry, it was voted to have the Building Industry Contact Committee of the Chapter designate a suitable sub-committee.

The president then announced that he had a pleasant duty to perform in providing for the award of the clay products trophy to the winner of the 1931 Chapter golf tournament. W. J. Howard, representing the Pacific Northwest Brick and Tile Association, was called upon to make the presentation, which he did in an able manner, calling attention to the bitter struggle between the winner, William Aitken, and the runner-up, F. A. Naramore, the contest being decided at the 19th hole. Mr. Aitken received the trophy with some appropriate words in response.

A report was made by Mr. Hermann on the proposed Chapter meeting at the University to the effect that such a meeting was desired by the students but it appeared impossible to have it prior to January 1. After some discussion it was decided to combine this meeting at the University with the Chapter's annual meeting, the event to be some time in January.

President Borhek then spoke of the campaign to de-centralize Federal architectural work and expressed his belief that a change in government procedure should be vigorously urged on our senators and representatives in Congress. After some discussion it was voted that a copy of the resolutions passed at the joint meeting of the Washington State and Oregon Chapters be sent to the Institute Board of Directors.

Mention was next made of the approaching vacancy in Regional Director, Western Mountain District; the term of Director Willson expiring next spring. Consideration of a successor was referred to the Chapter's Committee on Institute Affairs.

The president called the attention of the Chapter to the provision in the Institute By-laws regarding Fellowship nominations which could be submitted by any five members. Nominations to be considered by the Jury the coming year must be submitted prior to January 1, 1932, on blanks prepared for the purpose.

The students' sketch competition was postponed until a later date when the entrants will have more time to prepare their masterpieces. Many excellent drawings are in preparation. The prizes include sketches by famous American pencil and ink artists, namely: Chester Price, Ernest Born (two), and Otto Eggers of New York; Otho McCracken, Hutchinson, Kansas; Frank M. Rines, Boston; and Roy Partridge of Seattle and Mills College, Oakland.

TACOMA SOCIETY OF ARCHITECTS

The relations of subcontractors with the architects were discussed by Messrs. Rendel and Mitchell of the George Scofield Company at the meeting of the Tacoma Society of Architects November 2, at the Rhodes Tea Room. An extra set of plans and more time for figuring on contracts were the main objectives mentioned by the speakers in promoting better cooperation between the groups. Earl Dugan presided.

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*Appears alternate months

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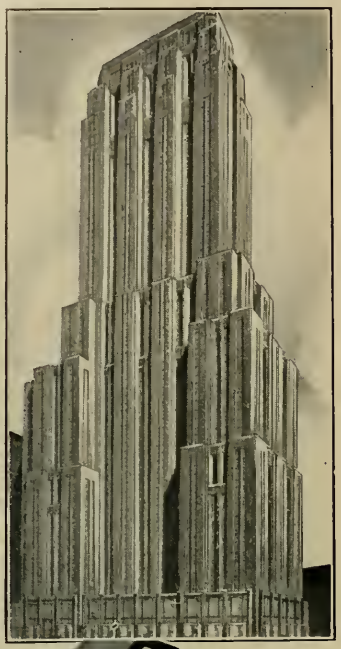

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THE intricate wiring of a building is made easier to follow if the separate wires are identified by colors. Hazard Electrical Building Wire is supplied in ten, standard, easily-distinguished colors for this purpose.

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Seasonal unemployment in the plants of the Paraffine Companies, Inc., has been eliminated through a plan conceived and already put into operation by the company and its employees. Normally there is a seasonal lay-off of approximately 15% of the factory employees during the winter months. Since many hundreds are employed by this great Pacific Coast Industrial, the benefits of the plan are far reaching.

All officers and employees of the company, whether on salary or daily wage, are contributing 2% of their monthly earnings to a Relief Fund. The employees who earn less than $90 per month are not permitted to contribute.

The Paraffine Companies, Inc., contributes an amount equal to 50% of the Employees' Fund. In addition, the company furnishes all supervision, tools and materials required for the operation of this plan.

These unemployed are utilized solely for non-productive and non-profit activities in the company's roofing, paint and linoleum plants, warehouses, or offices under the direction of the Employees' Committee. The unemployed will be given four days' work each week at $3 per day. Under this plan, for every dollar provided for relief there is a dollar secured in relief to an unemployed man.

SAN FRANCISCO CLUB JINKS

The annual jinks of the San Francisco Architectural Club held at Foresters hall on the evening of December 5th was of added interest because it marked the thirtieth anniversary of the club. Members and friends turned out in large numbers and thoroughly enjoyed the splendid program arranged by an energetic committee headed by Theodore S. Ruegg. Unlike previous holiday jinks held by the club, the affair was open to the building industry which showed its interest in the organization by purchasing generous blocks of tickets. Quite a little sum was netted and the money will serve a good purpose in helping to carry on the work of the organization.

The entertainment consisted of a road show enacted by club members and professional talent, radio stars and celebrities from Hollywood. Dancers from Texas Guinan's New York night club helped to enliven the evening's festivities.

In spite of the fact that many draughtsmen in the city are out of work, the activities of the club have in no way subsided. The very comfortable and home-like club rooms are well patronized and the outlook for an increased membership next year is propitious.

BOOK REVIEWS

By Edgar A. Kierulff

ARCHITECTS' AND BUILDERS' HANDBOOK, 18th Edition, By Frank E. Kidder, C. E. and Harry Parker, M. S. Published by John Wiley & Son, Inc., 440 Fourth Avenue, New York City. Price $8.00.

Fully revised and brought up to present day standards, this is the most complete handbook of its kind published in America. Certain chapters have been arranged to facilitate class room work, as this book is extensively used by colleges and technical schools, though primarily it is intended for reference. The editor can find no subject relative to engineering, architecture, construction or building that has been omitted from this valuable technical work.

UNDERPINNING, Its Practice and Applications, By Edmund Astley Prentis and Lazarus White. Published by the Columbia University Press, New York, 1931. Price $7.50.

The scope of the underpinning field has greatly increased, in consequence of which the technique has been revolutionized though the general methods of doing this type of work have changed only in a small degree.

This book has been carefully written and is adequately illustrated. There are six chapters embracing the field of underpinning work, together with a glossary of terms, appendices and index.

THE BELL SYSTEM TECHNICAL JOURNAL. Published by the American Telephone and Telegraph Co., New York City. Price 50c per copy or $1.50 per year.

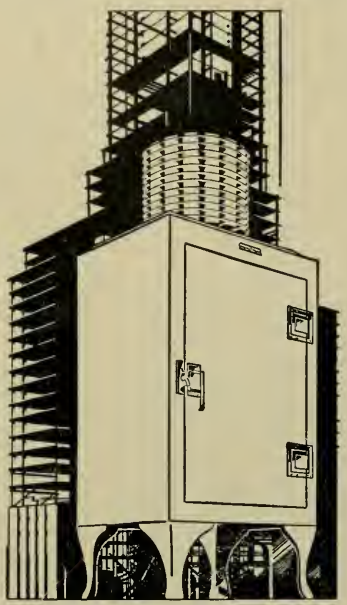
An excellent technical paper published quarterly by the American Telephone & Telegraph Company of New York, giving the results of researches in the field of telephony and telegraphy and being the medium by which all advances in these two branches of electrical science are given to the interested professional and lay reader.

Radio and electrical engineers will find this publication a very valuable addition to their technical reading.

JOHNSON SERVICE BROCHURE

The Johnson Service Company of Milwaukee, have recently issued a most attractive brochure, liberally illustrated, on temperature control in residences. Regulation of radiators, control of firing, humidity control, concealed radiators and several other important phases of temperature control are described, together with adequate illustrations and diagrams. The book itself is a work of typhographical art.

ALL STEEL CONSTRUCTION



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Above: Sisalkraft being used for curing and protecting concrete in the Rigler School, Portland, Ore. Architect, George Jones. Contractor, Ross B. Hammond. Cement Finisher, V. C. McCormick.

Left: Sisalkraft used for curing all floors of the John Rogers High School, Spokane, Wash. Architect, Dow & Wells. Contractor, J. J. Lohrenz. About 100,000 sq. ft. of Sisalkraft used.

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HALL OF SCIENCE

A two story steel frame and brick observatory and hall of science is to be built in Griffith Park, Los Angeles, from funds donated by the late Colonel Griffith J. Griffith. The architects are John C. Austin and Frederic M. Ashley, Chamber of Commerce Building, Los Angeles. The amount available is $750,000.

MORTUARY ADDITIONS

Preliminary plans have been prepared by Raymond De Sanno, architect, 2584 Milvia Street, Berkeley, for alterations and additions to a one- and two-story mortuary at 3479 Piedmont Avenue, Oakland, for Hill & Kammerer. The work, which will cost about $25,000, will consist of a new front and chapel.

ADDITION TO SCHOOL BUILDING

Plans have been completed by Messrs. Dragon & Schmidts, architects of Berkeley, for a one story brick addition to the Marin school at Albany. The building will cost under $10,000.

$50,000 VETERANS MEMORIAL

Plans have been completed by Davis-Pearce Co., Grant and Weber Streets, Stockton, for a two-story and basement Veterans' Memorial Building at Santa Cruz, estimated to cost $50,000.

HALL OF RECORDS, MARTINEZ

Bids are being advertised for the construction of a three story Class A Hall of Records, Martinez, from plans by E. Geoffrey Bangs, 411-30th Street, Oakland. The entire work is to be done by segregated contracts, the bids to be opened on December 22nd.

SAN FRANCISCO RESIDENCE

Plans have been completed in the office of Bakewell & Weihe, architects, 251 Kearny Street, for a $45,000 residence in Seacliff, San Francisco, for Joseph Branstein. The house will be of stucco and brick veneer with slate roof.

NAPA POST OFFICE BUILDING

Messrs. Reed & Corlett, architects of Oakland, have been commissioned to prepare plans for a new post office building at Napa. An appropriation of $140,000 is available.

NEW HOSPITAL WING

A ten story and basement Class A wing is planned to the Queen of Angel's Hospital, Bellevue Avenue, Los Angeles, from plans by Albert C. Martin of that city.

Estimator's Guide

Giving Cost of Building Materials, Wage Scale, Etc.

Amounts quoted are figuring prices and are made up from average quotations furnished by material houses to three leading contracting firms of San Francisco.

THIS MONTH—The prices have stabilized at the present level as to materials and unit costs.

All prices and wages quoted are for San Francisco and the Bay District. There may be slight fluctuation of prices in the interior and southern part of the state. Freight cartage, at least, must be added in figuring country work.

Overtime in wage scale should be credited with time and a half, Sunday and holidays double.

Bond—1½% amount of contract.

Brickwork—

Common, $31 to $36 per 1000 laid, (according to class of work).
Face, $70 to $90 per 1000 laid, (according to class of work).
Brick Steps, using pressed brick, $.90 lin. ft.
Brick Walls, using pressed brick on edge, 60c sq. ft. (Foundations extra.)
Brick Veneer on frame buildings, $.80 sq. ft.
Common, f. o. b. cars, $14.00 plus cartage.
Face, f. o. b. cars, $45.00 per 1000, carload lots.

HOLLOW TILE FIREPROOFING (f.o.b. job)

3x12x12 in.	$ 68.00 per M
4x12x12 in.	76.50 per M
6x12x12 in.	105.00 per M
8x12x12 in.	170.00 per M

HOLLOW BUILDING TILE (f.o.b. job) carload lots).

8x12x5½	$76.50
6x12x5½	59.50

Composition Floors — 18c to 30c per sq. ft. In large quantities, 18c per sq. ft. laid.

Mosaic Floors—80c per sq. ft.

Duraflex Floor—23c to 30c sq. ft.

Rubber Tile—55c per sq. ft.

Terazzo Floors—40c to 55c per sq. ft.

Terazzo Steps—$1.50 lin. ft.

Concrete Work (material at San Francisco bunkers) — Quotations below 2000 lbs. to the ton.

No. 3 rock, at bunkers	$1.65 per ton
No. 4 rock, at bunkers	1.65 per ton
Eliot pea gravel, at bnkrs.	1.75 per ton
Washed gravel, at bunkrs	1.75 per ton
Elliott top gravel, at bnkrs.	1.75 per ton
City gravel, at bunkers	1.40 per ton
River sand, at bunkers	1.50 per ton
Delivered bank sand	1.10 cu yd.

Note—Above prices are subject to discount of 10c per ton on invoices paid on or before the 15th of month, following delivery.

SAND

Del Monte, $1.75 to $3.00 per ton.
Fan Shell Beach (car lots, f. o. b. Lake Majella), $2.75 to $4.00 per ton.
Cement, $2.24 per bbl. in paper sks.
Cement (f.o.b. Job, S. F.) $2.44 per bbl.
Cement (f.o.b. Job, Oak.), $2.64 per per bbl.
Rebate of 10 cents bbl. cash in 15 days.
Medusa "White" .....$ 8.50 per bbl.
Forms, Labors average 22.00 per M.
Average cost of concrete in place, exclusive of forms, 28c per cu. ft.
4-inch concrete basement floor.....13c to 14c per sq. ft.
4½ inch Concrete Basement floor .....13c to 14c per sq. ft.
2-inch rat-proofing....6½c per sq. ft.
Concrete Steps.....$1.10 per lin. ft.

Dampproofing and Waterproofing—

Two-coat work, 18c per yard.
Membrane waterproofing—4 layers of saturated felt, $5.00 per square.
Hot coating work, $1.80 per square.
Medusa Waterproofing, 15½c per bbl, San Francisco Warehouse.

Electric Wiring — $2.75 to $8.50 per outlet for conduit work (including switches).
Knob and tube average $2.25 to $5.00 per outlet, including switches.

Elevators—

Prices vary according to capacity, speed and type. Consult elevator companies. Average cost of installing an automatic elevator in four-story building, $2450; direct automatic, about $2400.

Excavation—

Sand, 40 cents; clay or shale, 90c per yard.
Teams, $10.00 per day.
Trucks, $20 to $25 per day.
Above figures are an average without water. Steam shovel work in large quantities, less; hard material, such as rock, will run considerably more.

Fire Escapes—

Ten-foot balcony, with stairs, $65.00 per balcony.

Glass (consult with manufacturers)—

Double strength window glass, 15c per square foot.
Quartz Lite, 50c per square foot.
Plate 80c per square foot.
Art, $1.00 up per square foot.
Wire (for skylights), 27c per square foot.
Obscure glass, 25c square foot.
Note—Add extra for setting.

Heating—

Average, $1.60 per sq. ft. of radiation, according to conditions.

Iron—Cost of ornamental iron, cast iron, etc., depends on designs.

Lumber (prices delivered to bldg. site)

Common, $24.00 per M (average).
Common O. P. select, average, $28.00 per M.

1 x 6 No. 3—Form Lumber	$15.00 per M
1 x 4 No. 1 flooring VG	58.00 per M
1 x 4 No. 2 flooring	50.00 per M
1 x 4 No. 3 flooring	40.00 per M
1 x 6 No. 2 flooring	52.00 per M
1¼x4 and 6 No. 2 flooring	60.00 per M

Slash grain—

1 x 4 No. 2 flooring	$35.00 per M
1 x 4 No. 3 flooring	32.00 per M
No. 1 common run to T. & G.	28.00 per M
Lath	5.00 per M

Shingles (add cartage to prices quoted)—

Redwood, No. 1	$ .85 per bdle.
Redwood, No. 2	.65 per bdle.
Red Cedar	.85 per bdle.

Hardwood Flooring (delivered to building)—

13-16x3¼" T & G Maple	$105.00 M ft.
1 1-16x2¼" T & G Maple	135.00 M ft.
⅞x3½ sq. edge Maple	122.50 M ft.

	13-16x2¼" T&G	⅞x2" T&G	5-16x2" Sq.Ed.
Clr. Qtd. Oak	$175.00 M	$125.00 M	$158 M
Sel. Qtd. Oak	115.00 M	95.00 M	110 M
Clr. Pla. Oak	110.00 M	87.00 M	95 M
Sel. Pla. Oak	106.00 M	68.00 M	82 M
Clear Maple	110.00 M	82.00 M	
Laying & Finishing	16c ft.	15c ft.	13c ft.

Wage—Floor layers, $9.00 per day.

Building Paper—

1 ply per 1000 ft. roll	$2.80
2 ply per 1000 ft. roll	4.20
3 ply per 1000 ft. roll	6.80
Sisalkraft, 500 ft. roll	5.50
Sash cord com. No. 7	$1.00 per 100 ft.
Sash cord com. No. 8	1.10 per 100 ft.
Sash cord spot No. 7	1.60 per 100 ft.
Sash cord spot No. 8	1.90 per 100 ft.

Sash weights cast iron, $45.00 ton
Nails, $2.85 base.
Belgian nails, $2.60 base.

Millwork—

O. P. $75.00 per 1000. R. W., $80.00 per 1000 (delivered).
Double hung box window frames, average, with trim, $5.00 and up. each.
Doors, including trim (single panel, 1¾ in. Oregon pine) $6.00 and up, each.
Doors, including trim (five panel, 1¾ in. Oregon pine) $5.75 each.
Screen doors, $3.50 each.
Patent screen windows, 20c a sq. ft.
Cases for kitchen pantries seven ft. high, per lineal ft., $4.25 each.
Dining room cases, $5.50 per lineal foot.
Labor—Rough carpentry, warehouse heavy framing (average), $11.00 per M.
For smaller work, average, $22 to $30 per 1000.

Marble—(Not set), add 50c to 65c per ft. for setting.

Alaska	$1.40 sq. ft.
Columbia	1.40 sq. ft.
Golden Vein Yule Colo.	1.70 sq. ft.
Pink Lepanto	1.50 sq. ft.
Italian	2.00 sq. ft.

NOTE — Above quntations are for ⅞ inch wainscot in large slabs f.o.b. factory. Prices on all other classes of work should be obtained from the manufacturers.

Floor Tile—Set in place.

Verde Antique	$2.50 sq. ft.
Tennessee	1.50 sq. ft.
Alaska	1.35 sq. ft.
Columbia	1.45 sq. ft.
Yule Colorado	1.45 sq. ft.
Travertine	1.60 sq. ft

Painting—

Two-coat work ..... 27c per yard
Three-coat work ..... 36c per yard
Cold Water Painting ..... 8c per yard
Whitewashing ..... 4c per yard
Turpentine, 80c per gal, in cans and 65c per gal. in drums.
Raw Linseed Oil—73c gal. in bbls.
Boiled Linseed Oil—76c gal. in bbls.
Medusa Portland Cement Paint, 20c per lb.

Carter or Dutch Boy White Lead in Oil (in steel kegs).

Per Lb.

1 ton lots, 100 lbs. net weight 11¾c
500 lb. and less than 1 ton lots 12c
Less than 500 lb. lots 12½

Dutch Boy Dry Red Lead and Litharge (in steel kegs).

1 ton lots, 100 lb. kegs, net wt. 11¾c
500 lb. and less than 1 ton lots 12c
Less than 500 lb lots 12½c

Red Lead in Oil (in steel kegs)

1 ton lots, 100 lb. kegs, net wt. 13¼c
500 lb. and less than 1 ton lots 13½c
Less than 500 lb. lots 14c
Note—Accessibility and conditions cause wide variance of costs.

Patent Chimneys—

6-inch	$1.00 lineal foot
8-inch	1.50 lineal foot
10-inch	1.85 lineal foot
12-inch	2.10 lineal foot

Pipe Casings — 12" long (average). $8.00 each. Each additional inch 10c.

Plastering—Interior—

	Yard
1 coat, brown mortar only, wood lath	$0.36
2 coats, lime mortar hard finish, wood lath	.45
2 coats, hard wall plaster, wood lath	.50
3 coats, metal lath and plaster	.90
Keene cement on metal lath	1.10
Ceilings with ¾ hot roll channels metal lath	.65
Ceilings with ¾ hot roll channels metal lath plastered	1.30
Shingle partition ¾ channel lath 1 side	.60
Single partition ¾ channel lath 2 sides 2 inches thick	2.00
4-inch double partition ¾ channel lath 2 sides	1.20
4-inch double partition ¾ channel lath 2 sides plastered	2.25

Plastering—Exterior—

	Yard
2 coats cement finish, brick or concrete wall	$ .90
2 coats Atlas cement, brick or concrete wall	1.15
3 coats cement finish No. 18 gauge wire mesh	1.60
3 coats Meduaa finish No. 18 gauge wire mesh	2.90

Wood lath, $4.00 per 1000.

2.5-lb. metal lath (dipped)	.15
2.5-lb. metal lath (galvanized)	.18
3.4-lb. metal lath (dipped)	.20
3.4-lb. metal lath (galvanized)	.25

¾-inch hot roll channels, $46 per ton.

Hardwall plaster, $15.40 ton; $12.95 in paper sacks (rebate 15c sack).
Finish plaster, $16.40 ton; in paper sacks, Dealer's commission, $1.00 off above quntations.
$13.85 (rebate 10c sack).
Lime, f.o.b. warehouse, $2.25bbl.; cars, $2.15
Lime, bulk (ton 2000 lbs.), $16.00 ton.
Wall Board 5 ply, $43.00 per M.
Hydrate Lime, $19.60 ton.

Composition Stucco—$1.35 to $1.75 per sq. yard (applied).

Plumbing—

From $58.00 per fixture up, according to grade, quantity and runs.

Roofing—

"Standard" tar and gravel, $5.00 per square for 30 squares or over.
Less than 30 squares, $5.25 per sq.
Tile, $17.00 to $30.00 per square.
Redwood Shingles, $11.00 per square in place.
Cedar Shingles, $10 sq. in place.
Recoat, with Gravel, $3.00 per sq.

Sheet Metal—

Windows—Metal, $1.80 a sq. foot.
Fire doors (average), including hardware, $2.00 per sq. ft.

Skylights—

Copper, $1.00 sq. ft. (not glazed).
Galvanized iron, 25c sq. ft. (not glazed).

Stone—

Granite, average, $7.00 cu. foot in place.
Sandstone, average Blue, $3.50; Boise, $2.60 sq. ft. in place.
Indiana Limestone, $2.60 per sq. ft. in place.

Store Fronts—

Copper sash bars for store fronts, corner, center and around sides, will average 70c per lineal foot.
Note—Consult with agents.

Steel Structural—$85 per ton (erected). This quotation is an average for comparatively small quantities.
Light truss work higher; plain beam and column work in large quantities, less.
Cost of steel for average building (erected), $83.00 to $90.00 per ton.

1931 WAGE SCHEDULE FOR SAN FRANCISCO BUILDING TRADES

Fixed by the Impartial Wage Board
Indorsed by Architects, General and Sub-Contractors, Municipal, State and Federal Governments.

Craft	Journeymen Mechanics
Asbestos workers	$ 8.00
Bricklayers	11.00
Bricklayers' hodcarriers	7.00
Cabinet workers, (shop)	7.50
Cabinet workers, (outside)	9.00
Carpenters	9.00
Cemeot finishers	9.00
Electric workers	9.00
Electrical fixture hangers	8.00
Elevator constructors	10.00
Elevator helpers	7.00
Engineers, portable and hoisting	9.00
Glass workers	8.50
Hardwood floormen	9.00
Housemovers	8.00
Housesmiths, arch. iron, skilled all branches	9.00
Housesmiths, arch. iron, not skilled all branches	8.00
Housesmiths, reinforced concrete, or rodmen	9.00
Iron workers (bridge & structural) including engineers	11.00
Laborers, building (6-day week)	5.50
Lathers, channel iron	10.00
*Lathers, all other	8.50
Marble setters	10.00
Marble helpers	6.00
Marble cutters and copers	8.00
Marble bed rubbers	7.50
Marble polishers and finishers	7.00
Millmen, planing mill department	7.00
Millmen, sash and door	6.00
Millwrights	8.00
Model makers	10.00
Model casters	9.00
Mosaic and Terrazzo workers	9.00
Mosaic and Terrazzo helpers	6.00
Painters	9.00
Painters, varnishers and polishers (shop)	7.50
Painters, varnishers and polishers (outside)	9.00
Pile drivers and wharf builders	9.00
Pile drivers engineers	10.00
Plasterers	11.00
Plasterers' hodcarriers	7.50
Plumbers	10.00
Roofers, composition	8.00
Roofers, all others	8.00
Sheet metal workers	9.00
Sprinkler fitters	10.00
Steam fitters	10.00
Stair builders	9.00
Stone cutters, soft and granite	8.50
Stone setters, soft and granite	9.00
Stone carvers	8.50
Stone derrickmen	9.00
Tile setters	10.00
Tile helpers	6.00
Auto truck drivers, less than 2500 lbs.	5.50
Auto truck drivers, 2500 to 4500 lbs.	6.00
Auto truck drivers, 4500 to 6500 lbs.	6.50
Auto truck drivers, 6500 lbs. and over	7.00
General teamsters, 1 horse	5.50
General teamsters, 2 horses	6.00
General teamsters, 4 horses	6.50
Plow teamsters, 4 horses	6.50
Scraper teamsters, 2 horses	6.00
Scraper teamsters, 4 horses	6.00

*On wood lath if piece rates are paid they shall be not less than such an amount as will guarantee, on an average day's production of 1600 lath, the day wage set forth.

Eight hours shall constitute a day's work for all Crafts except as otherwise noted.

Plasterer's hodcarriers, bricklayers' hodcarriers, roofers, laborers, and engineers, portable and hoisting, shall start 15 minutes before other workmen, both at morning and noon.

Five and one-half days, consisting of eight hours on Monday to Friday inclusive, and four hours on Saturday forenoon shall constitute a week's work.

Overtime shall be paid as follows: For the first four hours after the first eight hours, time and one-half. All time thereafter shall be paid double time. Saturday afternoon (except laborers), Sundays from 12 midnight Friday, and Holidays from 12 midnight of the preceding day shall be paid double time. On Saturday laborers, building, shall be paid straight time.

Where two shifts are worked in any twenty-four hours shift time shall be straight time. Where three shifts are worked, eight hours pay shall be paid for seven hours on the second and third shifts.

All work shall regularly be performed between the hours of 8 A. M. and 5 P. M., provided, that in emergencies or where premises cannot be vacated for work by mechanics until the close of business, men then reporting for work shall work at straight time; but any work performed after midnight shall be paid time and one-half except on Saturdays, Sundays, and holidays, when double time shall be paid.

Recognized holidays to be New Year's Day, Decoration Day, Fourth of July, Labor Day, Admission Day, Thanksgiving Day and Christmas Day.

Men ordered to report for work, for whom no employment is provided, shall be entitled to two hours pay.

NATION-WIDE COMPETITION

Authorized by Congress, the War Department is sponsoring a nation-wide competition among architects for a monument to be erected at Appomattox Court House, Va., commemorating the close of the Civil War. The Department's program has been approved by the Committee on Competitions of the American Institute of Architects, of which Egerton Swartwout of New York is chairman.

The Quartermaster General, under the auauthority of the Secretary of War, invites architects of standing and reputation who are citizens of the United States to submit designs for this monument and a landscape treatment of the site, the announcement states.

"As the monument authorized by Congress is to commemorate the termination of the war between the States," the communication continues, "the design should carry out this thought and should not call to mind the tremendous conflict with all of its attending sorrows.

"It should symbolize an undivided nation and a lasting peace. If this is accomplished those engaged in the tremendous conflict will be fittingly honored and the requirements of the Act of Congress will be carried out.

"The monument will be erected on the old court house square at Appomattox, Va. This tract is rectangular in shape with the long sides running east and west and contains approximately two acres. A state highway runs through the square on an east and west line and divides to inclose the site of the old court house.

"This state road can be relocated to run straight through the tract if it is desired to place the monument north or south of the highway. There is an old brick jail on the tract that can be used for a comfort station and quarters for the caretaker.

"It is required that the design for the monument be accompanied by a landscape plan showing a proposed treatment of the court house tract and any proposed relocation of the highway. Any fence or wall considered necessary should also be shown.

"The Wilbur McLean house, where the terms of surrender were signed, and the old brick tavern and outbuildings are shown on the topographic map, though not in the court house square. These buildings will probably be restored and therefore present plans for the monument and treatment of grounds should be made with such restorations in view.

"The jury of award will consist of three members, to be appointed by the Quartermaster General from a list of architects, not in the Government service, and members of the A. I. A."

The announcement points out that the Act of Congress simply provides funds for securing a design and the preparation of plans and estimates of the cost.

"This competition," it is declared, "is simply for the purpose of obtaining such designs, plans and estimates and it must be clearly understood that the monument itself will not be constructed until Congress shall see fit to appropriate funds therefor.

"Request will be made for the necessary legislation upon the opening of the Seventy-second Congress, and there is reason to hope that the required funds will be appropriated and made available not later than July 1, 1932. Until such funds are appropriated, actual construction cannot proceed.

"Copies of the program may be obtained by intending competitors by addressing the Quartermaster General, Munitions Building, Washington, D. C. All competitors are urged to visit the site of the monument, which is about two miles from the railroad station in the present town of Appomattox, Va., and located close to Highway U. S. 60."

The plan and design of the monument will be subject to the approval of the National Commission of Fine Arts.

OPPOSE SMALL HOUSE BUREAU

The following letter has been addressed to all Chapters of the American Institute of Architects and other architectural organizations, by the Architects League of Northern New Jersey:

The architectural organizations in the suburbs of New York, and at least two within the city, have signified their opposition to the Architects' Small House Service Bureau.

The Bureau undoubtedly was conceived with worthy motives, but in its workings has brought real hardships upon the residential architect and others just starting their practice.

We have found the Bureau acting not so much as a "clinic" for that poor client who cannot afford both an architect and a colored tile bath room, but rather as an aggressive, price cutting competitor of the architects for their already established clientele; and this at a time of depression when architects need every bit of work they can get.

No other allied part of the building industry, such as the realtor, mortgage company, material yard or the labor union has a similar official "bread line" to give away its services and thus endanger its firmly set scale of payment achieved by years of effort.

A director of the Bureau told the writer that

AN OPEN LETTER

To
National Advertisers
and
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Gentlemen:

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The Editor of Printer's Ink on November 12th, 1931, very clearly defines the steps actually necessary to secure business in this fast growing West. Read of the individuality of the West . . . the need of special sales and advertising effort . . . how the West must be considered "a country unto itself" . . . then analyze your own efforts in this respect.

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he saw no reason why the Bureau's activities should not be extended to include the eight or nine room house with garage attached. The possibilities of extending the "clinic" are unlimited in scope and feasible for every phase of architectural service. Also a large market is open for organizations such as Sears-Roebuck, who recently advertised to ten million people that the architectural fees could be saved by dealing with that company.

The architectural publications are printing many articles by the officials of the Architects' Small House Service Bureau extolling their new doctrine of their stock plan idea for architects, namely: that supervision is more important than individuality of design. These writers completely overlook the fact that architects are not enthused about supervising somebody else's stock plan; and that architects are not trained to offer their services primarily as supervisors, and secondly as designers.

During the past winter architects in the vicinity of New York City were solicited for funds to aid the unemployed draftsmen, and they responded generously. The Architects' Small House Service Bureau became the recipient of that generosity by a gift of forty-eight draftsmen whose salaries were paid out of that charitable fund! This winter promises to be long, hard and meagre for every one; but in addition, architects are expected also to compete against their own last winter's charity.

At the present time the American Institute of Architects endorses the Architects' Small House Service Bureau.

We consider that this Bureau, as now constituted is merely another commercialized stock plan company operating under the guise of a "clinic", and is no more entitled to favored endorsement of the A. I. A. and the U. S. Department of Commerce than you or I, or any other architect or stock plan company.

This continued endorsement, especially during this depression, is increasing an already aroused anatagonism and resentment among architects and their organizations, and if allowed to grow will menace the prestige of the A. I. A. and imperil, by loss of good will, its attraction for future membership.

Unity and harmony in the profession are most vitally needed, and we should greatly appreciate an expression of your opinion on this critical matter.

Yours sincerely,
CLARENCE H. TABOR, Jr.
President.

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May6th,
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It has been a real pleasure to work in this kitchen with its Monel equipment and its clean bright appearance is always easy to maintain.

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Otto J. Hoog
Chef.

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THE MODERN TREND IN ARCHITECTURE

Speaking before the management division of the Real Estate Board of New York, Inc., at the first of the fall meetings in the Hotel Commodore, Raymond M. Hood had for his subject, "The Modern Trend in Architecture." The designer of the American Radiator, McGraw-Hill, Daily News and Chicago Tribune Buildings, and one of the architects engaged on Radio City, told his hearers that "simplicity and direction is the necessity as well as the order of the day in architecture," and that buildings today are erected for twenty to thirty years, where formerly a structure was designed to last sixty to one hundred years.

"We have just completed a period of opulence and, naturally, of extravagance," said Mr. Hood in opening. "Buildings have not lagged behind other things in life. There was plenty of money everywhere. It was spent freely on business organizations, buildings, private homes, wives, children and steam yachts. What was a few thousand dollars between friends! It was, in short, a comfortable, riotous era of business and of living.

"It is no news that this period is passed and that rigid economy is the order of the day in everything and nowhere more than in building, which is always one of the major expenses either of the private individual or business. When a building must be built, every last item must be explained as carefully as in every item in a household or in a budget. 'Keeping up with the Joneses,' in home life and business, as a matter of self-respect, is not even tolerated as 'funny'; it is reckoned as a 'major vice.'

"We can all remember how generously we spent our clients' money. To say that we were 'high-hat' to an owner who had the temerity to ask if a $50,000 lobby in his office building was necessary, is to put it mildly. If he wanted to put in $1200 elevator cabs he was told simply 'that it was not being done in our set.' When it came to the exterior of his building we reminded him, at his expense, of course, of his civic duty and that he must do his duty for the silhouette of New York. He was 'given the works' on everything: mail boxes, elevator doors, floor mosaics, exterior decorative motifs of all sorts and elaboration of materials.

"If I may make a comparison with clothes, I would compare the period from which we are just emerging with the dress of the times of Louis XV. Then, no self-respecting gentleman could appear in public without a brocaded coat, a costly wig, exquisitely worked collars and cuffs of lace, a jeweled cane and silver and jeweled buckles on

his shoes. After this period, as a matter of necessity, the simple dress of Republican days followed the luxurious dress of Royalist days and this simple dress has remained the model of our clothes today.

"So in our buildings, in the opulence of the period that has just passed, no self-respecting building could appear on the street save in rich materials and decked out with elaborate decorative motifs, doorways, balconies, colonnades, cornices, turrets, etc. Now simplicity and direction is the necessity as well as the order of the day of architecture, just as it was in the dress of the Republican era."

ARTIFICIAL EARTH TREMORS STUDIED

Certain earth tremors produced by explosions are being studied in Yosemite National Park in an attempt to solve important earthquake problems. Present observations have three objectives: 1. To ascertain the velocities of earthquake waves in different kinds of granite; 2. To ascertain the effect of a vertical walled canyon on earthquake waves intercepted at right angles, and 3. To record an echo in the rock wave by reflection from the bottom of the rock itself. These experiments are described in the following statement prepared by Arno B. Cammerer, acting director of the National Park Service, and issued by the Department of the Interior:

"With the hope of learning more about earthquakes, experiments with artificial earth tremors are being carried on in Yosemite National Park by a group of scientists working under the joint auspices of the Carnegie Institution of Washington and the California Institute of Technology.

"The group of investigators includes Dr. Beno Gutenberg, Professor of Geophysics and Seismology, at the California Institute of Technology, and formerly of the University of Frankfort, Germany; Henry Salvatori, geophysicist and member of Geophysical Service, Incorporated, Dallas, Tex.; Ray Felton, Frank Bierrend and Edward Partain, technical assistants of the company and Dr. John P. Buwalda, professor of geology and chairman of the division of geology and paleontology at the California Institute of Technology.

"The investigation has been undertaken at the suggestion of Dr. Arthur L. Day, director of the geophysical laboratory of the Carnegie Institution and chairman of the Advisory Committee in Siesmology.

"The earth tremors on which the investigations are based are produced artificially in two different

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ways. A large tunnel on the Wawona Highway is being cut beneath the cliffs east of Bridal Veil Falls, and is now about 2300 feet long. At the inner end of the tunnel, several hundred feet underground, charges of several hundred pounds of dynamite are exploded about twice each day.

"These set-up vibrations can be registered up to distances of several miles. For certain other purposes the scientific party is exploding somewhat smaller charges of dynamite on the surface at points distant from Yosemite Valley and recording the vibrations set up in the solid granite with instruments placed some thousands of feet away.

"The conditions for carrying on this experiment are unusually favorable in the Yosemite region. In addition to the frequent explosions during construction work, the region has vast expanses of relatively bare granite where no soil interferes with the reception by the instruments of the vibrations.

"Also, Yosemite Valley is a deep, narrow, vertical-walled chasm and when vibrations are caused on one side, the surface waves which usually confuse the reading of a seismogram are eliminated because they are reflected back when they strike the vertical cliffs on the side of the valley from which they radiate.

"The telephone lines in the park facilitate arrangements for the experiments at different points and make it possible to send precise time signals from the point of explosion to the recording point.

"The problems which the scientists are investigating are three in number. The first is to determine the velocities of earthquake waves in the several different kinds of granites found in the Yosemite region. This is done by determining the exact hundredths of a second that the vibrations require to travel a measured distance through the granite. The velocities in the different types of granite vary considerably.

"The second problem is to ascertain the effect of a vertical-walled canyon or valley on earthquake waves when they travel approximately at right angles or across the valley. Each explosion sets up three different kinds of earth tremors or waves in the rock and it is important to know which of these will reach the other side of the canyon and which type will be eliminated by being reflected back by the canyon wall.

"A third problem is an attempt to record the echo in the rock wave by reflection from the bottom of the granite itself. The earth is made of concentric shells, the outer one of which is believed to be only eight or ten miles thick and is

made of granite. Below this granite layer are quite different rocks of basaltic composition.

"The waves from an explosion travel downward through the granite and should be reflected back from the basalt surface as an echo, but the return distance is great and the problem of recording the echo is very difficult. If the time for the return journey of the waves to the base of the granite can be ascertained, the thickness of the granite is determined because the rate of travel of the waves is approximately known.

"The instrumental equipment operates electrically. A number of portable seismo-meters are placed some distance apart in the surface rock. When they are disturbed by vibrations, they send electrical impulses through cables to a delicate recording instrument in the instrument truck.

"These impulses are recorded as lines on a rapidly moving record. When the rock stands still the line is straight. When the rock vibrates the line becomes sinuous and irregular and by its form indicates the nature and amount of the rock vibration.

"Mr. Cammerer stated that he had been informed by Superintendent C. G. Thomson that the artificial shocks are so slight that they are not felt by visitors to Yosemite National Park and the work involves no danger to them or to the forests and scenic features of the park.

"Superintendent Thomson reported that the investigations were meeting with success, but since it is the first time that such experiments have been attempted, it is not expected that the three problems involved will be entirely worked out without further attempts."

WASHINGTON STATE SOCIETY

Selection of a nominating committee for next year's officers was the chief business transacted at the monthly meeting of the Washington State Society of Architects, November 12, at the Hotel Gowman, Seattle. John S. Hudson presided.

Discussion was held anent the proposed affiliation of state architectural societies with the American Institute of Architects. The proposed ordinance for the levying of building permit fees was found exceedingly unpopular.

COMBATTING CORROSION

The Robert W. Hunt Company, engineers, have recently issued a pamphlet entitled "Combatting Corrosion with Alloys" that is of technical and informative interest to architects and engineers. Copies may be obtained on request at the firm's Chicago office, 2200 Insurance Exchange.

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PUBLIC INTEREST IN HARDWARE

By P. F. King

The manufacturer of builders' hardware suffers from what is today a common complaint—there is an excess of producing capacity. The product does not enter into consumption separately. Its use is dependent upon operations in another field over which the manufacturer has no control. Consequently, he cannot by sales promotion work cause any substantial increase in the demand for his goods. This is not necessarily true as applied to an individual producer. It is possible that one organization by superior work may enlarge its sales but the increase will come out of the volume of competitors.

The industry as a whole must wait upon building operations because hardware is a building accessory and when building lags the hardware market is curtailed. People will not buy hardware because it is cheap with the prospect of using it when they do build. They will buy hardware only when they are actually building. There is, of course, always some market for over-the-counter sales of hardware for repairs and alterations, but, in the main, the statement is true that the sale of hardware depends upon the volume of building.

Building activity at the present time is at a low ebb although there is evidence that this condition must change soon in the field of residential building, which furnishes the largest market for hardware. Studies of statistics in regard to residential building indicate that for the country as a whole the surplus has been largely absorbed, and we are approaching a period in which there must be a resumption of home building. It is likely, however, that the resumption will be gradual and the prospect of any far reaching increase in volume in the near future is not great.

Hardware today suffers from lack of emphasis. It is obvious that if a man is building a home and he has a definite amount of money to spend, if he puts that money into one feature of the building he cannot spend it for another, and if by high powered selling methods and skillfully directed advertising appeal, his interest is captured by expensive bath rooms, plumbing fixtures, heating appliances, etc., he will spend his money for these things and when the hardware is selected he will have very little left and the hardware will be skimped.

Hardware seems to be sold entirely too much on a basis of utility. Its utility is, of course, of prime importance. For the most part it has to do with the working parts of a building and its potentiality for giving satisfaction or causing annoy-

ance is great. It will vary with the knowledge and study that is used in selecting hardware and supervising its application. However, aside from utility, it can have great decorative value. It can lend distinction to a building or give it an air of cheapness.

There is a lack of interest so far as the general public is concerned and the responsibility for this condition lies with us. The average person who builds a home knows very little about hardware and unless he is fortunate enough to have the services of a trained builders' hardware man, he is quite likely to be satisfied with anything that will do the work, regardless of its suitability for his particular building.

There is in every sizeable center of population throughout this country a small group of builders' hardware experts who by hard work and close study for long years, have acquired the knowledge to guide builders in the selection of hardware. Their versatility in meeting unusual situations is amazing. They know the lines of hardware to be had for different purposes and when none is available, they have sufficient knowledge to determine how it can be made to meet the particular need.

These builders' hardware men are much more than salesmen. They are craftsmen and artists. They have a professional pride in properly trimming a building. They know how to combine utility and good taste. Unfortunately, the number of home builders who consult them is all too small and something of a cooperative nature should be done to strengthen their position and widen their influence.

If all of the manufacturers and dealers will adopt a get-busy program and feature the slogan, "Your House Is as Good as Its Hardware," we would soon bring about a condition where the prospective home builder would ask himself the question—"What kind of hardware will I have on this building?", we would be a long step in advance of where we are now, and if a prospective home buyer were interested enough to ask the question—"What sort of hardware have you on this building?", contractors and operators would be prepared for the question by making hardware selections that would furnish talking points for their building, just as they now do on other features which enter into its construction.

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Fewer smokestacks, more schools and the guidance of engineering, will brighten the human highways of the future, A. P. Greensfelder, President of the Associated General Contractors of

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America, declares in an Engineering Foundation symposium on "Benefits from Engineering Progress."

"Modern buildings," Mr. Greensfelder says, "now go to two extremes, walls of glass and windowless walls. Conservation of day light, and complete control of illumination by exact diffusion of electric light, both have their places. The 'great white ways' of our cities are just signs of our times. Steam-turbine power plants, hydro-electric dams, superpower transmission lines, all bespeak wonderful engineering achievements.

"Turning night into day at first seemed sacreligious. Other steps in scientific and engineering progress have shocked or scandalized many persons in the years that have gone; but they have come to be accepted matters of course. With the discovery of fire came the consciousness that human eyes could see in the firelight as well as in the moonlight.

"The history of illumination is real romance. The firebrand, the torch, animal oil, the candle, mineral oil lamps, gas and the successive electrical appliances mark the accelerating steps in better lighting. Now television causes no more violent agitation than a few ripples of public interest.

"How has man utilized the lenghtened day? First, to dispel the fears lurking in the darkness, then to light his path of travel, and next to permit recording and reading current historical events and accentuating religious ceremonies. Later light was used to foster amusements after a day of working or fighting, and finally to extend the opportunities for education, commerce and social intercourse.

"The discovery of window glass changed the design of structures for man's habitation. Sunlight penetrates interiors dispelling dampness and disease. The modern lighthouse and the city's show windows are wonderful combinations of glass and artificial light. One promotes safety at the sea coast; the other adds to the attractiveness of marts of trade.

"Speed of night transportation depends absolutely upon the engineering application of light. Locomotive, vessel, and automobile headlights, signal systems, and the illumination of highways and airports are vital necessities."

Darkness is of two kinds, physical and mental, and dispelling the latter is of the highest importance, Mr. Greensfelder points out. "Shall we foster minds or matter?" he asks. "Shall we add to the mounting volumes of books or of buildings? How should they be correlated?

"We talk today of over-production. We lament over-expansion of facilities for the production of goods. Then why not more homes and schools and hospitals, and better highways to make them accessible, bridges to span the gaps of time as well as space, the sowing of ideas as well as seeds?

"Production is threefold: articles to be consumed, wealth in private structures, and community facilities. Engineering minds are constantly eliminating wastes of production. By steadily improving railroads, highways, and other means for carrying goods, they have brought costs of transportation to amazingly low figures compared with those of pre-railroad days. Engineers should now, with even greater concentration, devote energy to reducing wastes of distribution.

"Engineering methods, properly utilized by business men, should be helpful in reducing the costs of merchandizing just as they have been helpful in cutting costs of producing goods, power and light. Engineers will be found ready to cooperate in solving the problems of merchandizing.

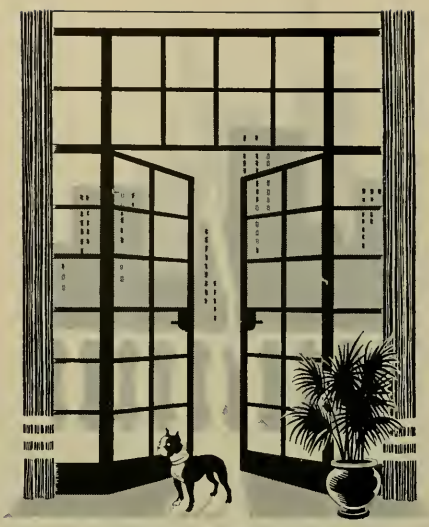
"Engineering analysis is forecasting the future —lighting the paths which our children will follow. Engineering talents must and will aid in directing the tendencies of the time."

THE BATTLE OF ARCHITECTURAL STYLES

Editor THE ARCHITECT AND ENGINEER:

Bel-Air is not a real estate venture in the commonly accepted meaning of that term. Bel-Air is the embodiment of an ideal. Its meandering roadways are the expression of a hope that these initial steps in the enterprise may be followed by a development of our so happily located acres into an ensemble of beautiful homes, harmonious and reposeful, a community in which the best architectural talent of California will be inspired and encouraged to so design each unit that, when the last building is occupied, Bel-Air may be considered as a completed picture, one large canvas, as it were, having all the characteristics of a great and glorious masterpiece.

Now, the primary characteristic of a masterpiece is good composition which, as the eminent English art critic, John Ruskin, put it "means, literally and simply, putting several things together so as to make one of them." Summed up in one word, the first principle of composition is UNITY. Whatever may be the effects the artist wishes to produce, the several parts of his picture must be related and hence harmonious so that together all the parts make one beautiful whole.



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In music also this fundamental law of unity holds, as witness the purpose of the "leit motif" of the symphony. And likewise in frozen music, as Ruskin termed architecture, whether in single units or in groups, large and small, unity must obtain where a masterly quality is sought.

But the "battle of architectural styles", furiously pressed in every city of these United States and already under way in Bel-Air, destroys the very essentials of a masterpiece. There can be no sense of unity and consequently no comprehensive beauty where varying romantic fancies dictate, where a guiding thought is not clearly evident in the ensemble. And, so, this American insistence on individual expression, as exemplified in our willingness to plagiarize the architecture of whatever country or age we most admire, regardless of its fitness in our environment, makes for the undoing of the very thing that will give such developments of Bel-Air distinction. The charm of old European towns and villages, which we in great numbers travel thousands of miles to see, lies largely in the harmony of form and color, which pervades each group. Never does one find in those delightful places a conscious attempt to be original or different or conspicuous. Their builders, using the materials at hand and the common methods of construction then obtaining, did not shrink from the inevitable family resemblance to other structures in the locality. What Henry James referred to as a "decent monotony" in neighboring buildings did not submerge the individuality of any one unit nor suggest paucity of inventive or artistic talent in the community. On the contrary, that "decent monotony" was the effective background for the skillful display of subtle variations in mass and detail which gave every reasonable opportunity for the gratifying of different tastes and, at the same time, insured the necessary homogeneity, without which no group can be beautiful. "Decent monotony" is the background for delightful Broadway, near Stratford-on-Avon; it is the background for those charming little French towns, which have been spared the intrusion of recent architecture; it is the background of the hill towns of Italy; it is the background of any fine architectural group wherever it may be found or in whatever period it may have been created.

In none of these towns could there possibly have taken root an illogical mixture of styles, such as we favor today, because the architecture of the past has ever been indigenous to the soil on which it was developed, an unaffected expression of the taste of a homogeneous people within the limits determined by climate, the character of local building materials and social life. In north-

ern countries, for example, roofs are steep to shed snow, while in the Mediterranean countries, where no provision need be made for frequent snowfalls, roofs are quite simply and unaffectedly given a low pitch. In northern countries wood is freely employed because of its abundance, although in the Cotswold district in England and elsewhere, where stone is easily quarried, the majority of houses are of masonry. In southern France, Spain, and Italy clay products are more common than wood and therefore, we find in those lands only clay tile roofs and houses built almost exclusively of brick, covered with plaster for preservation. These much admired villages are beautiful, mainly because, through lack of opportunity, fundamental considerations have not been ignored.

With us harmony in the group is far more difficult to achieve. We are not a homgeneous people and can have no national taste sufficiently formed to guide us. Furthermore, we are not limited by the character of local building materials and because of easy travel, cheap printing and photography we are free to choose "styles" as we will. And we have chosen with disastrous results. Our unguided freedom has become mere license and, rather than harmony, confusion is now the dominant characteristic of American residential districts. Considered as individual units, the best American architecture of the last three decades leaves nothing to be desired. But as part of a larger picture such praise cannot often be accorded. To be sure, architects are not always free to do as they wish; their problem in respect to neighboring buildings has seldom been easy of solution and, in many instances, impossible of solution. We have become quite lost in a maze of European traditional architecture, from which we can never emerge unless we return to the path of fundamental principles. How and when we shall emerge rests with the skill of our architects and the support given them by their clients. The fundamentally well trained architect, following that path, will find no insurmountable difficulty in differentiating between decent monotony and commonplace monotony. He will be quite equal to satisfying the individual taste of his client, in whatever direction it may lead, and yet observe the general demands of group harmony when he ceases to be completely bound by tradition. To the capable designer the problem becomes but a challenge to his ingenuity and is more likely to lead to a distinctive, individualistic solution than when photographs and measured drawings of ancient buildings are slavishly adhered to.

Bel-Air is still quite young. Barely one-fourth of the allotments have been built upon at the

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present moment. If the "battle of styles" could be made to cease and be followed by a prevailing unity of effect on the remaining three hundred and more properties the ideal, which prompted the beginning of Bel-Air, can yet be realized. But it will not be realized except through the formulation of a logical program that will take us back to fundamentals and which must be generally adhered to. Such program must require that future home builders and their architects will think in terms of the completed Bel-Air as well as in terms of their own unit and that they will not aim to make this district a museum of all the traditional architecture of foreign countries, but rather to accept for guidance the climatic conditions obtaining in Southern California, our Bel-Air topography and their family requirements.

In general, these conditions prescribe the predominance of horizontal lines, simple and low masses, low pitched roofs and a type of construction and employment of materials best suited to a country occasionally subject to earthquakes. Continuity with the past need not thereby be broken. We cannot, if we would, alienate ourselves from our heritage but we must scrutinize its possibilities for our uses more zealously than we have and be less literal in the adaptation of its outer forms. In their intellectual and spiritual qualities we shall find in our favorite styles of the past the guidance we would seek, the cardinal principles of design which underlie all good architecture, old and new.

After all, we are not Englishmen speaking the language of Shakespeare, nor Frenchmen fitting perfectly in chateaux, nor Spanish peasants. We are twentieth century Americans, living in a warm section of the country, and our architecture should simply and directly meet our needs with all the charm and beauty, restraint and yet variety, which the most talented and best trained architects of Southern California know so well how to produce.

Los Angeles, Dec. 1. W. H S.

CONCEALED RADIATORS

The C. A. Dunham Company has just issued a new bulletin, No. 510, on their Dunham Type "L" Concealed Radiators. It completely describes a wide range of radiator sizes.

Distributing features of this new product are the light-weight heating elements, access to the heating element through the air inlet openings and the solution offered to the problem of applying orifice regulation to concealed radiators.

It is a bulletin written for the information of the engineer, architect and contractor, and the Dunham Company will be glad to furnish copies on request.

INCREASED USE OF AIR CONDITIONING PLANTS

Promotion of Lambert H. Polderman to be vice-president in charge of all Pacific Coast activities of the Carrier Engineering Corporation of California and the Carrier Engineering Corporation of New Jersey, has been announced by those companies.

The Carrier Engineering Corporation of New Jersey, with headquarters in Newark, and now a division of Carrier Corporation, an international organization with offices in the principal cities of the world, was founded by Willis H. Carrier in 1915 to put into practice his discoveries in the science of air conditioning. Pacific Coast headquarters were established in Los Angeles eight years ago, with offices, showrooms and assembling plant at 748 East Washington Street. Mr. Polderman was appointed representative for the entire Coast territory at that time. Branch offices are now maintained in San Francisco and Phoenix, Arizona.

In spite of the natural climatic attractions of California, the company's business of providing individual atmospheric control for big buildings has grown to such an extent that Carrier Engineering Corporation of New Jersey found it advisable two years ago to organize and incorporate a separate company in the State of California to take care of West Coast operations. In addition to Carrier Engineering Corporation of California, Mr. Polderman is in charge of the activities of its affiliates, the Brunswick-Croeschell Company and the Carrier-York Corporation, both of which recently consolidated with the Carrier Engineering Corporation of New Jersey.

Since the parent company established the Los Angeles branch eight years ago, approximately 200 air conditioning installations have been made on the Pacific Coast. These include plants of all types and sizes in department stores, hotels, public buildings and office structures. Temperatures in such well known structures as the Biltmore Hotel, Gilbert Chocolate Company plant, Paramount Theater and "621 South Spring Street", in Los Angeles, the farm buildings of the University of California at Davis, the University of California at Berkeley, the Bon Marche department store at Seattle, and the Title & Trust Building at Phoenix, are controlled by Carrier equipment.

Mr. Polderman is also vice-president of the National Association of Ventilating Engineers.

TWO BUILDINGS OF UNUSUAL INTEREST

- Two outstanding buildings by Albert F. Roller, architect, of San Francisco, will be illustrated in *The Architect and Engineer* for January, 1932.
- The John Breuner Building, Oakland, is conceded to be a notable example of well tempered modern design of the commercial type.
- The new home of the Coast Counties Gas and Electric Company, Watsonville, is a fine example of California Spanish design.
- Begin the New Year with a subscription to the Pacific Coast's only architectural and engineering magazine.

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SMALL HOUSE PLANS DEFECTIVE

That the American working man can have a better home—more comfortable, better built, better appearing—at the same, or even a lower price than he now pays for inferior housing, is the conclusion of 25 nationally known architects who have spent eight months studying housing conditions in 21 representative cities of the country, made public in a statement issued at Washington, D. C.

The group composes the committee of Design of the President's Conference on Home Building and Home Ownership. William Stanley Parker of Boston, former secretary of the American Institute of Architects, is chairman of the committee.

The committee believes that the design of the average small American dwelling is "seriously defective," and "that a much higher standard of design is possible in the average residence." The raising of this standard is the magic by which the committee believes that the blessing of better housing for less money can be achieved. It is preparing to recommend to the President's Conference the specific steps that should be taken to bring about widespread improvement in design.

Space, privacy, the use of good materials, attractive architecture—these desirable features, in the opinion of the experts who compose the committee on design, need not be limited to high-priced homes. By proper planning they can be made available to the great field of low-priced housing, the five and six-room dwellings of the small-income group.

The committee has found by observation that approximately 85 per cent or more of low-priced residence construction in the cities examined is done by building agencies that erect and sell a number of homes in subdivisions or

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other localized groups. These agencies realize some of the more obvious economies and efficiencies typical of large scale operations. This committee points out how such group organization gives them opportunity to raise the quality of their work by improved design.

The membership of the committee on design, which is one of 31 appointed by the President to investigate every phase of the problem of housing, was chosen from 21 cities in the North, South, East and West (many of which form dominant centers for the various sections of the country) so that the committee's findings might justifiably be applied to the nation.

The committee undertook at its inception eight months ago to analyze the practices in the design of houses and apartments of the less expensive types in the 21 cities represented by the membership. The studies in each city have been made usually by the local member in collaboration with local builders, governmental officials, and research organizations.

The work of the individual members has been coordinated by visits of the committee's research secretary and by meetings—one general meeting at San Antonio, Texas, lasting for three days, and regional meetings in the East.

The committee members have given their services to the task without reward, and their results, like those of their fellow committees, are a monument to the American tradition of voluntary effort for the public welfare.

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The average income of mechanical engineers is $4265 a year, that of civil engineers $4116 and electrical engineers a little more than $3600, as compared with an average annual income of $9764

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for medical doctors, it is disclosed by a statement of Walter J. Greenleaf, specialist in higher education of the Federal Office of Education in the *U.S. Daily*. This information was obtained in a study of more than a dozen different professions.

"Although persons entering the professions do so usually because of preferences and aptitudes and not necessarily on account of the remuneration expected, nevertheless the possibilities making a living and of maintaining certain standards are important considerations," Mr. Greenleaf states.

"In the series of leaflets being prepared by the Office of Education on careers, which it is hoped will prove valuable to students contemplating certain professions, some attention has been given to a study of salaries or incomes. This inclusion, however, does not pretend to be final, but is limited to a small cross section of the various professions.

"There are wide variations in incomes of different professional men and women. A study of over 6000 medical doctors just published this year by the American Medical Association discloses that this group averages $9764 annually. The median income runs $7436. The reason of its being smaller than the average is due to extreme variations in individual earnings.

"Doctors with 10 years practice usually earn a median annual income of $8569, and with 15 to 19 years practice, an income of $8909. Those who have practiced 20 years and more enjoy a median of $7984. Of the group examined, 165 earned gross incomes of more than $30,500 annually.

"Medical specialists enjoy the highest incomes. General practitioners, however, enjoy an average net income of $5250.

"In a recent study of 1019 mechanical engineers, annual salaries averaged $4265; only 13 per cent

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received salaries between $5000 and $7500; and 9 per cent received greater amounts. Analyzed according to number of years since graduation from college, 14 men one year out of college averaged $2292; 259 out five years averaged $3186; 135 out 10 years averaged $4581; 143 out 15 years averaged $5606; 98 out 20 years averaged $6306; 64 out 25 years averaged $7976; and 44 out 30 years averaged $7852.

"In a recent study of 1643 civil engineers, the average annual salary was found to be $4116. According to the number of years out of college, average annual salaries appeared as follows: 28 men one year out of college, $1973; 459 men two years out of college $2360; 362 men out of college five years, $3175; 207 men out 10 years, $4151; 246 men out 15 years, $5526; 148 men out 20 years, $6226; 95 men out 25 years, $6797; and 98 men out 30 years, $7028. Twelve per cent of the total studied made salaries of $5000 to $7500, while 7 per cent made larger salaries annually.

"Salaries of electrical engineers average little more than $3600 annually. An examination of the incomes of 1726 disclosed that 6 per cent earned more than $7500 annually, while 156 out of college 15 years averaged $5357; 131 out 20 years averaged $6452; 96 out 25 years averaged $7650; and 46 out of college 30 years averaged $8141 annually.

"A rather narrow study of dentists showed that members of this profession average annually $4118, with the usual professional income variations from an income of approximately $2000 the first year out of school to $7000 and above in individual cases.

"The legal profession, sometimes regarded as a high-paying profession, also shows extremes from less than $1000 annually to very high incomes for individual lawyers."

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This new plant replaces one which has for years produced Benedict stone, a cast stone used for many important buildings. The complete replacement of the existing plant indicates the radical change in manufacturing process necessitated by the introduction of the new stone. Scientific methods hitherto unknown in such work are to be used and special equipment is being provided throughout the plant.

A good idea of the character of Vibrastone may be secured from the 8-page file folder just issued by this company. Accurate natural color reproductions of Vibrastone in a variety of colors make the book both attractive and useful.

THUMB TACKS AND T-SQUARE

[Concluded from Page 13]

revenues met with little success. Now the very condition of over construction which brought about the decline in building is working for architects and contractors seeking modernization projects. Many new buildings with a large percentage of vacancies are drawing tenants from older structures whose owners are thus confronted with the need of action.

Office building tenants, like milady in search of a hat, want the newest fashions—the latest in exteriors, lobbies and elevator service. More than any other factor, according to a leading New York City architect, high-speed, automatic elevator service in the newer buildings makes it imperative for older buildings to modernize.

The plain dollars-and-cents angle which is spurring owners of old buildings to make plans which in the aggregate will mount into the hundreds of millions — and eventually billions—and put thousands of building tradesmen to work, is that a modernized old building can undersell competing new buildings on desirable space.

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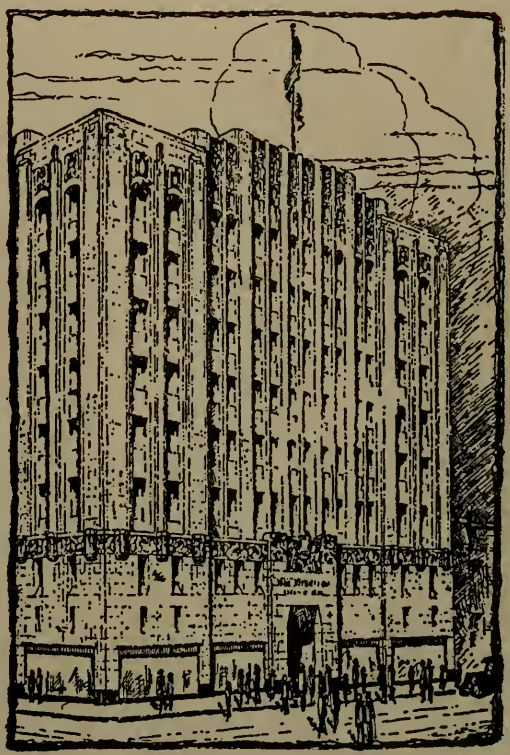
A New York architect with long experience in alterations says many older buildings can undersell newer competitors from 15 to 20 per cent, even after 10 per cent of the cost of new elevators and redecorated exteriors, entrances and lobbies has been added to existing rentals. He estimates that expenditures up to $2.50 per square foot of rentable space are often justifiable in a district where older buildings can thus be put into competition with those recently erected. "New elevators," he says, "are the monkey glands of building rejuvenation."

THE ARCHITECT AND ENGINEER



JANUARY 1932

The John Breuner's Vertical Transportation Problems Completely Solved by Otis

The John Breuner Store in Oakland, California, featured in this issue, is provided with the latest Otis Elevators and Otis Equipment. From modern cars to modern vertical transportation and service, the Otis Elevator Company has installed a *complete* system.

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Thumb Tacks and T-Square

IN reproducing from *Pencil Points* Harrison Clarke's drawings in THE ARCHITECT AND ENGINEER for November, the names of Messrs. Newton and Murray were unintentionally omitted in the caption below a small sketch of a doorway. We regret the oversight and trust the architects will accept our apologies. Messrs. Newton and Murray have done some very creditable architectural work in Southern California and we hope to be privileged to show some of it in an early issue.

⁂ ⁂ ⁂

AT the recent Western Divisional meeting of the Chamber of Commerce of the United States, at Spokane, Washington, Arthur A. Murphy, assistant to the president of the Union Pacific Lines, paid the architectural and engineering professions a fine compliment. In his appeal for the employment of private architects to design our Federal buildings, Mr. Murphy spoke of the beauty and charm of American cities which he declared is "conclusive evidence of the skill and progressiveness of the local architect." Continuing the speaker said:

"The architect has designed structures of convenience, strength, utility, durability and grace. Knowledge of the uses and qualities of local products and understanding of the traditions and aspirations of the people of the locality and a comprehension of climatical and other important conditions are very important factors in the final results.

"These observations apply with equal force to the engineer in the field of public works and to the analytical chemist in testing materials.

"There is more than a sentimental interest in urging the claim of the professional man. He is an essential part of the community. He usually maintains at considerable expense, an extensive and well equipped office and as a citizen and as one who contributes to the support of the Government, has a right to expect that he may utilize his talents in public as well as private work.

"This does not necessarily imply that regularly employed Government experts would be eliminated. With their understanding of past practices and of the aims of the public agencies concerned, the co-ordination of the work of private and official advisors is an assurance of balanced plans and specifications, of speed in the important preliminary stages through relief of public bureaus of much detailed work and of good final results."

⁂ ⁂ ⁂

THE editor has received a number of favorable comments of the paragraph which appeared in these columns in the December issue commending Geo. W. Kelham and the State of California for accepting no bid on public work unless the contractor files with his proposal a list of his subcontractors and the amounts of their bids. This plan, if generally adopted, would sound the death knell to the present vicious custom of bid "shopping."

In line with the movement, L. F. Danforth of the Master Painter's Association, Los Angeles, has submitted a plan which he believes will eliminate shopping of bids and he has received the hearty support of various construction groups, including architects, engineers and contractors. Here is Mr. Danforth's plan in a nutshell:

"First: At the outset of any undertaking the architect to call in as many specialty contractors as he deems advisable to estimate their respective portions of the work.

"Second: That all specialty contractors furnish a bond, or deposit a certified check in a reasonable amount to insure the faithful performance of their work if awarded the contract.

"Third: The successful specialty contractor's estimate shall be furnished to all general contractors who intend to bid on the undertaking, and the successful general contractor must award the contract to the various successful specialty contractors at the price submitted to the architects.

"Fourth: That centrally located rooms for estimating be provided by the Builders' Exchange, or other responsible organization who shall have charge of and be responsible for all plans and specifications."

The following changes have been suggested to the Danforth plan:

1. A—On public work the sub-contractors could not be specified so it would be necessary to have a special regulation governing that particular type of work.

   B—Frequently the general contractor might want some sub-contractor to figure the work whom the architect had not originally invited to submit an estimate, and there should be a rule that any sub-contractor recommended by a general contractor, and who could meet the requirements established by the architect should be allowed to submit a figure.

   C—Frequently a sub-contractor might not want to do the work for one of the general contractors figuring the job, and so there should be a regulation permitting the sub-contractor to specify on his bid that his figure could not be used by a certain general contractor.

2. A—A fifth point should be added to the effect that the general contractor should have to put up a labor and material bond in order to protect the sub-contractor who would be obliged to furnish a bond or certified check to guarantee his faithful performance of the work.

3. A—It should be definitely specified that the lowest sub-contractor in each group should receive the work and no preferences would be allowed. If a preference were allowed, it would permit unfair practices and furthermore no sub-contractor should be invited to bid on the job unless the owner and architect were willing to award it to him.

4. A—There should also be a provision to allow contractors, both sub and general, to take plans to their own office in the case of large jobs where the figuring was quite detailed.

⁂ ⁂ ⁂

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Mueller Brass Co., Port Huron, Michigan, reports an increase of 296% in their sales of streamline copper pipe and fittings for the fiscal year ending November 28, 1931, as compared with the preceding year.

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1932

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BUILDING FOR BREUNER FURNITURE COMPANY.
OAKLAND, CALIFORNIA
ALBERT F. ROLLER, ARCHITECT

THE ARCHITECT AND ENGINEER

JANUARY 1932
VOLUME 108
NUMBER ONE

THE JOHN BREUNER BUILDING, OAKLAND, CALIFORNIA

by
FRED'K. W. JONES

By the time the officials of the John Breuner Company made up their minds to build a new home for their Oakland interests—and had settled upon and acquired the location, the clouds of depression hung black and heavy on the economic horizon.

There were signs that they might get a good deal blacker and heavier, and there were prophets aplenty to point out how foolhardy was the undertaking in the face of prevailing conditions. But this business was founded by a California pioneer — properly speaking it was the first furniture business in California. The spirit of the founder, John Breuner, survives in his son and grandsons, who could not see backing down on the job because there was a possible spell of bad weather ahead.

DETAIL OF PARAPET, BREUNER BUILDING
OAKLAND, CALIFORNIA
Albert F. Roller, Architect

So—fundamentally there was no reason, either past or present, why the new building should not be built and the architect and contractor were engaged to plan and build a store that would serve purposes of display and sound merchandising in a way that was no longer possible in the old building.

Accordingly this enterprise, involving over $1,000,000, was begun and carried to completion during the darkest months of the financial lull and the store was opened to the public of the East San Francisco Bay region on October 13th, 1931.

Modern concepts of architecture and decoration have, within the past few years, revolutionized store design. The new Breuner Building is a typical example. The frame of reinforced concrete is faced with terra cotta finished in a transparent glaze—light green in color — supported on a polished black granite base.

In the lines, masses, detail and color of the structure, the architect, Albert F. Roller, was careful to achieve sound and well coordinated design and to avoid sensational and bizarre effects. Thus, while the building is thoroughly modern, it is one that will always have good style, distinction and dignity.

utilize to the best advantage every possible square foot of area for sales spaces and display purposes and at the same time provide on the respective floors the shops and workrooms incidental to the various departments.

Advantage was taken of the high first story to provide not only an excellent

ENTRANCE TO BUNGALOW, BREUNER BUILDING, OAKLAND, CALIFORNIA
Albert F. Roller, Architect

The building, in its eight stories and basement, contains 225,000 sq. ft. of floor space with high speed Otis passenger elevators conveniently located to distribute the foot traffic entering from Broadway and 21st Street.

Two large hydraulic freight elevators serve to distribute the merchandise from the roomy receiving platform at the rear of the first floor to the various departments throughout the building.

One of the problems in planning was to

structural lateral member but architecturally a strong, virile unbroken spandrel to support the upper stories with their regular fenestration.

In the treatment of interior walls, floors, and ceiling of the display windows, the special rooms and the selling spaces, the aim was to provide a quiet, unobtrusive but effective, background for the colorful merchandise displayed—yet to possess a defi-

nite character of its own. This was completely achieved. The extreme simplicity maintained throughout the building, also makes it easy to keep clean—a self evident virtue where the merchandise is exposed and not displayed in show cases.

One of the main display features of the building are the illuminated shadow boxes. They provide a miniature stage setting against which an endless variety of merchandise may be strikingly presented. The architect may well be praised for the design and excellent lighting effects of these devices which have hitherto been neglected by the retail furniture trade. The new store makes the most of the possibilities of such shadow boxes and puts to profitable use the furred spaces that ordinarily are blank and wasted. On the first floor above the line of door lintels are four such lighted niches—large enough to display chairs and small tables. They are placed on all stair landings throughout the building, having also been planned as definite parts of the general architectural scheme. They are framed in dull finish cromium and lined on the interior with veneers in pattern.

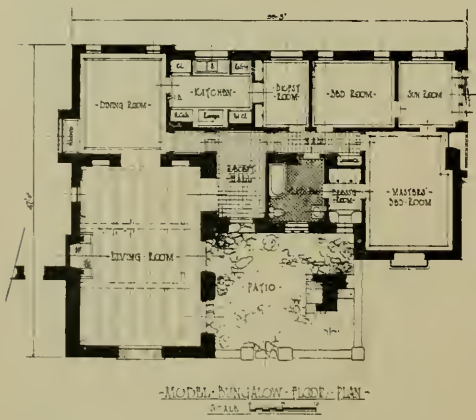
In the problem of model rooms and special backgrounds, the purpose was to secure original effects, wherever possible and to eliminate any feeling that such units are only temporary makeshifts, restricted and cramped in area, showing merchandise in an artificial and false light.

On the fourth and fifth floors are located 16 such period display rooms, spacious and well proportioned. The woodwork, finish, fireplaces and fixtures are designed

BUNGALOW PATIO, BREUNER BUILDING, OAKLAND, CALIFORNIA
Albert F. Roller, Architect

LIVING ROOM IN BUNGALOW, BREUNER BUILDING, OAKLAND, CALIFORNIA
Albert F. Roller, Architect

to faithfully interpret the given period and all are of permanent materials. Each room is different, presenting the Italian Renaissance, French Provincial, English, Tudor and 18th Century, Swedish Provincial, Spanish Colonial or Early California and Early American periods.



PLAN, MODEL BUNGALOW, BREUNER BUILDING, OAKLAND, CALIFORNIA
Albert F. Roller, Architect

On the fifth floor is a model Spanish home with seven rooms and a patio entrance court, in which an outdoor fire-place cleverly conceals a building column. Architecturally the home is a present day expression of the early Spanish and handicapped as was the designer by the problem of expressing the exterior of a house in 9'4" ceiling space—it has proven one of the most interesting spots in the building. By the exposure of false tiled eaves supported on rafters of eucalyptus boughs, an effect of height has been obtained and scale preserved.

With California's year 'round "open season" for garden and porch furniture, a special display for this department was arranged on the sixth floor. The building

MONTEREY DINING ROOM, BREUNER BUILDING, OAKLAND, CALIFORNIA
Albert F. Roller, Architect

columns and girders are cladded in knotty white pine, sandblasted and bleached, and the ceiling is decorated as a huge trellis supported by the heavier members.

A tiled pool and fountain with its tinkle of falling water—the large murals by Herman Struck on the flanking walls — one showing the rolling hills back of Oakland dotted with oaks and hillside villas, and the other a vista of Oakland and the bay with San Francisco in the distance, brings into this room the very land, water and gardens that the customer lives with daily.

On this floor also is located a well ventilated auditorium, comfortably appointed with a small stage and a seating capacity of 300.

Throughout the seven selling floors the primary thought always in mind was to develop a building where sales resistance by the dramatizing of merchandise would be reduced to a minimum and it is the concensus of those who visit the building that this has been accomplished — not on a grand scale but in an effective and economical way.

CARDEN FURNITURE DISPLAY, BREUNER BUILDING, OAKLAND, CALIFORNIA
Albert F. Roller, Architect

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ALBERT F. ROLLER, *Architect*
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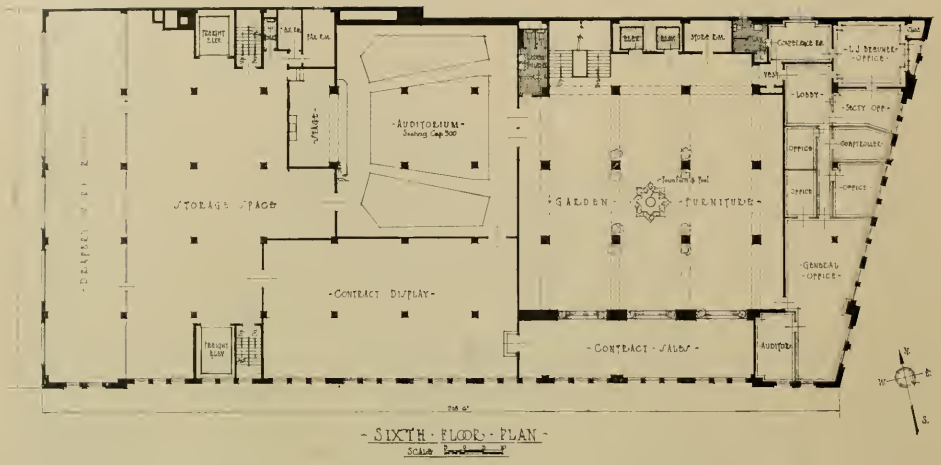
GUNN, CARLE & COMPANY, 444 Market Street, San Francisco.

Sisalkraft—
E. K. WOOD LUMBER COMPANY, Frederick and King Streets, Oakland.

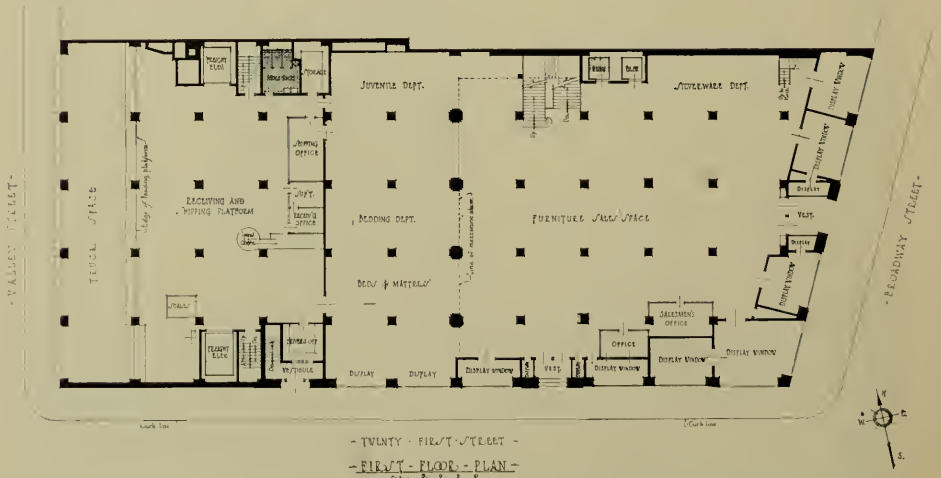
Photo by Moulin

DETAIL OF ENTRANCE, BREUNER BUILDING, OAKLAND, CALIFORNIA
ALBERT F. ROLLER, ARCHITECT



SIXTH FLOOR PLAN

Scale



TWENTY-FIRST STREET

FIRST FLOOR PLAN

Scale

PLANS, BREUNER BUILDING,
OAKLAND, CALIFORNIA
ALBERT F. ROLLER, ARCHITECT

Photo by Moulin

STUDY IN VERTICALS, BREUNER BUILDING, OAKLAND, CALIFORNIA
ALBERT F. ROLLER, ARCHITECT

Finished in California Redwood by Oakland Planing Mill

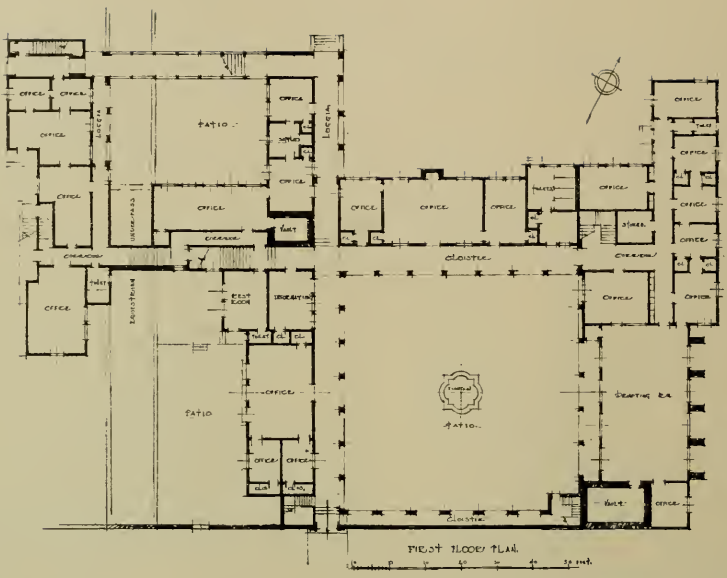
SWEDISH PROVINCIAL ROOM, BREUNER BUILDING, OAKLAND, CALIFORNIA

ALBERT F. ROLLER, ARCHITECT

Photo by E. M. Pratt and V. Baker

MAIN ENTRANCE, ADMINISTRATION BUILDING, BEL-AIR, LOS ANGELES, CALIFORNIA

MARK DANIELS, ARCHITECT

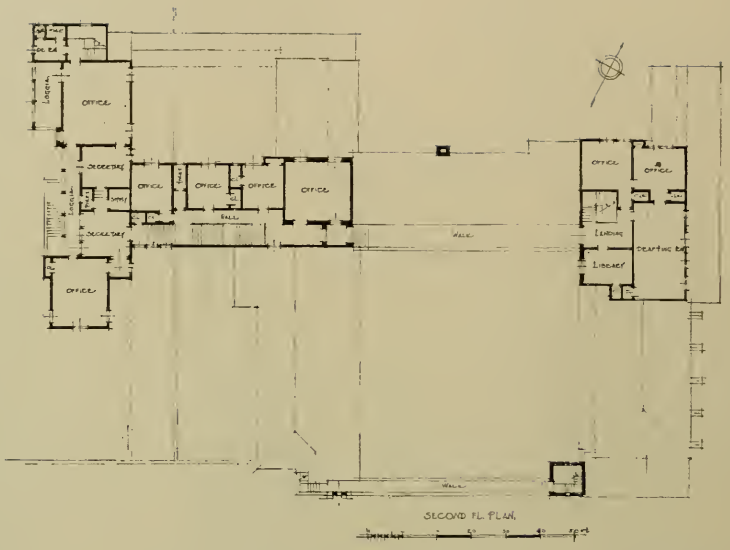


PLAN, FIRST FLOOR, ADMINISTRATION BUILDING, BEL-AIR. LOS ANGELES, CALIFORNIA

Mark Daniels, Architect

Photo by E. M. Pratt and V. Baker

EAST WING, ADMINISTRATION BUILDING, BEL-AIR,
LOS ANGELES, CALIFORNIA
MARK DANIELS, ARCHITECT



PLAN, SECOND FLOOR, ADMINISTRATION BUILDING, BEL-AIR, LOS ANGELES, CALIFORNIA
Mark Daniels, Architect

Photo by E. M. Pratt and V. Baker

PATIO, ADMINISTRATION BUILDING, BEL-AIR, LOS ANGELES, CALIFORNIA
MARK DANIELS, ARCHITECT

A NEW DEVELOPMENT IN BANK PLANNING

Fooling the Bandit

by
LLOYD A. RALLY
Architect

THE essentials of a bank are security, strength and dignity. These qualities expressed architecturally and accomplished practically, are embodied in the National Bank of Pico, at Pico, California, a growing community on the highway, ten miles east of the heart of Los Angeles.

This bank contains a new departure in protection, highly practical and successful, which has created much comment in banking circles.

The facade is of art stone, terra cotta, marble and stucco, with ornamental iron framing the plate glass of the openings. The entrance is in a large and deep central arch, flanked by a series of square windows, one of which may later be pre-empted for bank expansion.

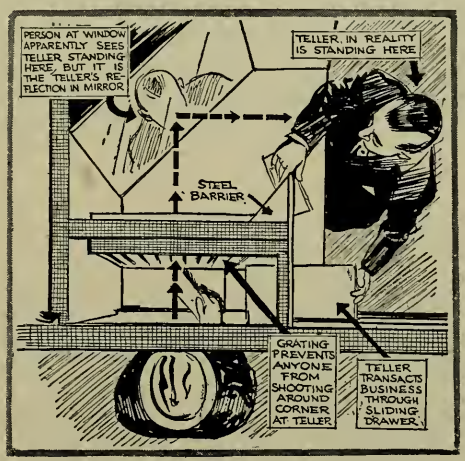
The banking room is well lighted from in front and above. The unusual bank screen has a panelled fumed oak dado, above which extends an imitation stone wall, pierced by the necessary openings.

The safe deposit vault is visible through double metal grilles and gates. The latter are electrically opened only to known customers, as is also a steel lined oak door to the work space.

The ceiling beams of the bank are decorated with the heraldry of the directors of the institution.

The usual directors' room, conference room and service accommodations are provided. All rear openings have burglar-proof steel sash.

While the original plans of the new bank were being prepared, contemplating the usual modern low bank counter, two bandits entered the old banking quarters and,


PERSON AT WINDOW APPARENTLY SEES TELLER STANDING HERE, BUT IT IS THE TELLER'S REFLECTION IN MIRROR
TELLER, IN REALITY IS STANDING HERE
STEEL BARRIER
GRATING PREVENTS ANYONE FROM SHOOTING AROUND CORNER AT TELLER
TELLER TRANSACTS BUSINESS THROUGH SLIDING DRAWER

In case a bandit attempts to shoot a teller who refuses to hand over the coin, the bullets strike a mirror and not the man. Mirror is at an angle of 45 degrees.

without the least difficulty, covered both customers and employees and escaped unscathed with the available cash.

This led to an investigation of the bandit-proof bank screen, now installed, a patented system of protection for bank employees, or others handling money, securities, or valuables, invented by David G. Earl of Long Beach, California.

grille of heavy vertical steel plates, set so close together so that it is impossible to thrust a fire arm through the grille, or to shoot diagonally through it.

Back of this grille appears the form of the teller, but in reality, it is his reflection in a diagonal mirror, which is backed with steel. Actually the teller stands in a safe position at one side of the wicket and may

Photo by Cawood

NATIONAL BANK OF PICO,
PICO, CALIFORNIA
Lloyd A. Rally, Architect

By virtue of the ingenious design of the various forms of this protective equipment, it is impossible for bandits to menace those behind the bank screen, thus protecting life and property and permitting the transaction of business rapidly and easily.

This equipment, of interest to the banker, the theatre owner, and the architect, is incorporated in the steel lined partition, or bank screen, separating the public space from the work spaces.

Each teller's wicket is protected by a

converse and transact business in full view of the customer.

Money, pass books, securities, etc., are passed between the customer and teller by means of pass drawers set in the counter in front of the grille, which slide back beside the teller. The drawers are covered by a steel plate which is drawn back by the teller, disclosing the drawers. The lower drawer is a deep one of suffi-

cient size to take large bags of cash or bulky packages of securities.

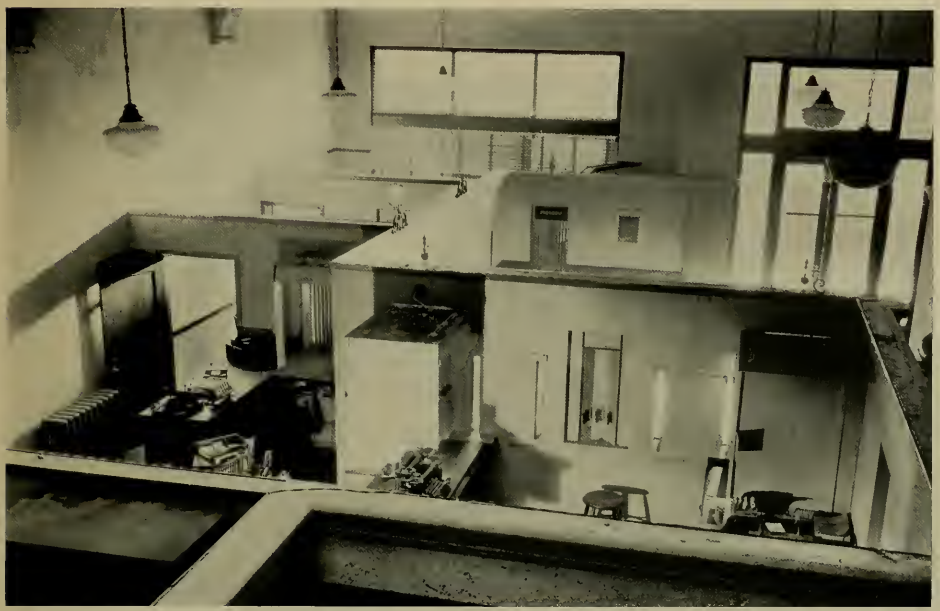
Personal contact is not sacrificed, either from the standpoints of vision or conversation, and tests have proven that business is transacted as rapidly and easily as with the ordinary teller's wicket.

Bullet proof periscopic windows are also provided in the bank screen, allowing clear vision, both ways. These consist of two rows of diagonally placed vertical mirrors, backed with steel and so arranged that, while ordinary conversation may be carried on through the windows, straight clearance for a bullet is blocked.

Another feature is the so-called steel turret. This enables an employee to cover anyone in the public space with a revolver and place bandits at his mercy. Turrets consist of heavy steel plates bent to face three ways, with automatic gun ports which open instantly when the muzzle of a revolver in the hand of an employee strikes the lock. The muzzle of the weapon projects through the port, which closes automatically when the weapon is withdrawn, and cannot be opened from the public space. Small holes for vision in the upper part of the turret are too tiny for the ordinary caliber bullets to penetrate, being further protected by bullet proof glass on the inside.

The steel bank screen lining, the wickets, periscopes and turrets have been thoroughly tested with .45 caliber fire arms and bullets cannot penetrate them.

As a result of the use of this equipment, the close contact between banker and customer is maintained, and the fear of the ever recurring visits of bandits is elimi-



Note bullet-proof periscopic windows

INTERIOR NATIONAL BANK OF PICO, PICO, CALIFORNIA
Lloyd A. Rally, Architect

nated in the minds of the bank employees. This helps efficiency and morale. Depositors and users of safe deposit boxes, also have thorough confidence in the bank's undoubted security.

With plenty of less dangerous banks to attack, bandits go elsewhere and ply their trade with little or no personal danger.

The new menace to the isolated bank, and even to the bank in the crowded city thoroughfare, which has developed with the increase in bank daylight robberies, is thus squarely met.

An infinite variety of interesting architectural treatments is possible with this equipment and the ingenuity of architects in future banks will undoubtedly produce some new developments in design, as well as in heretofore vulnerable theater booths and cashiers' windows.

NEW YORK'S LATEST SKYSCRAPERS
Photo in Camera Craft by Garabrant

PORTFOLIO

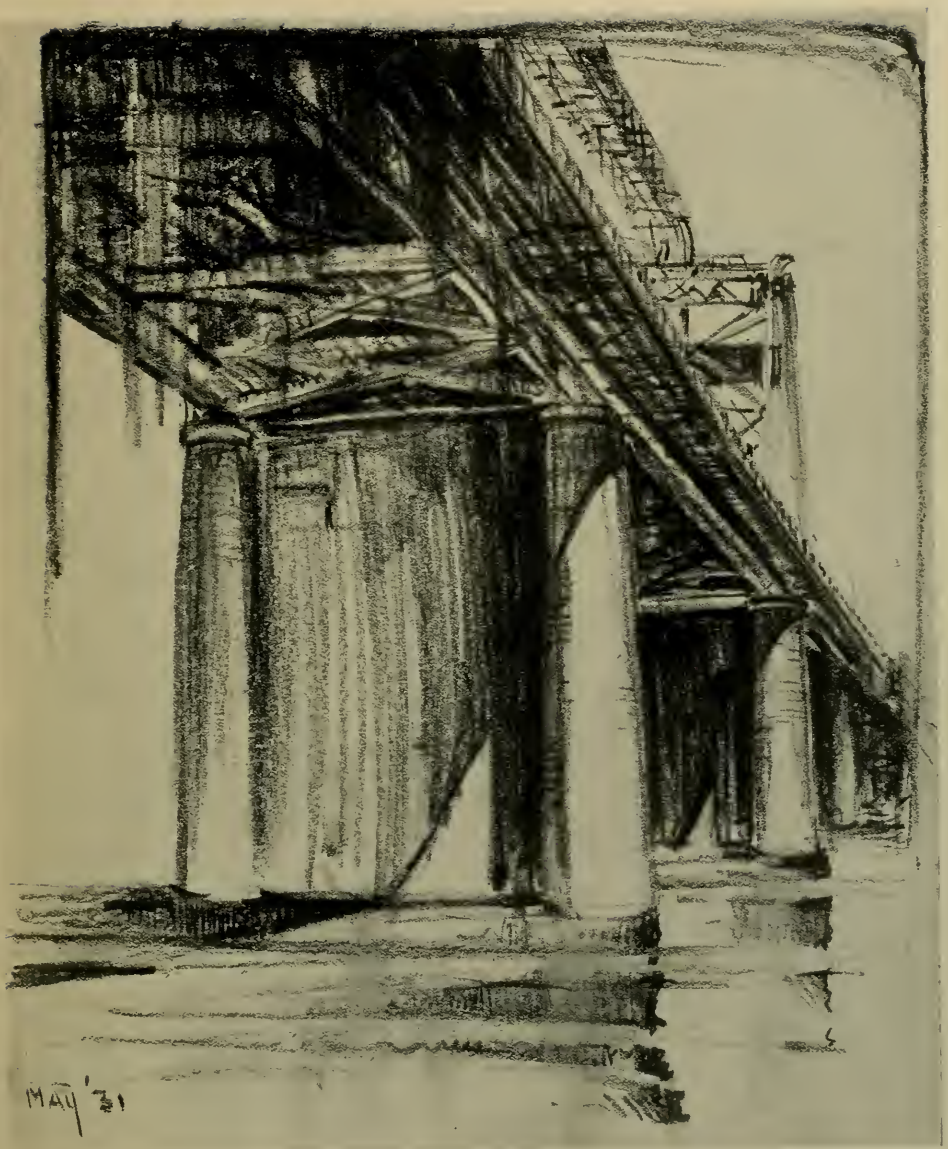
of

PENCIL DRAWINGS and SKETCHES

by

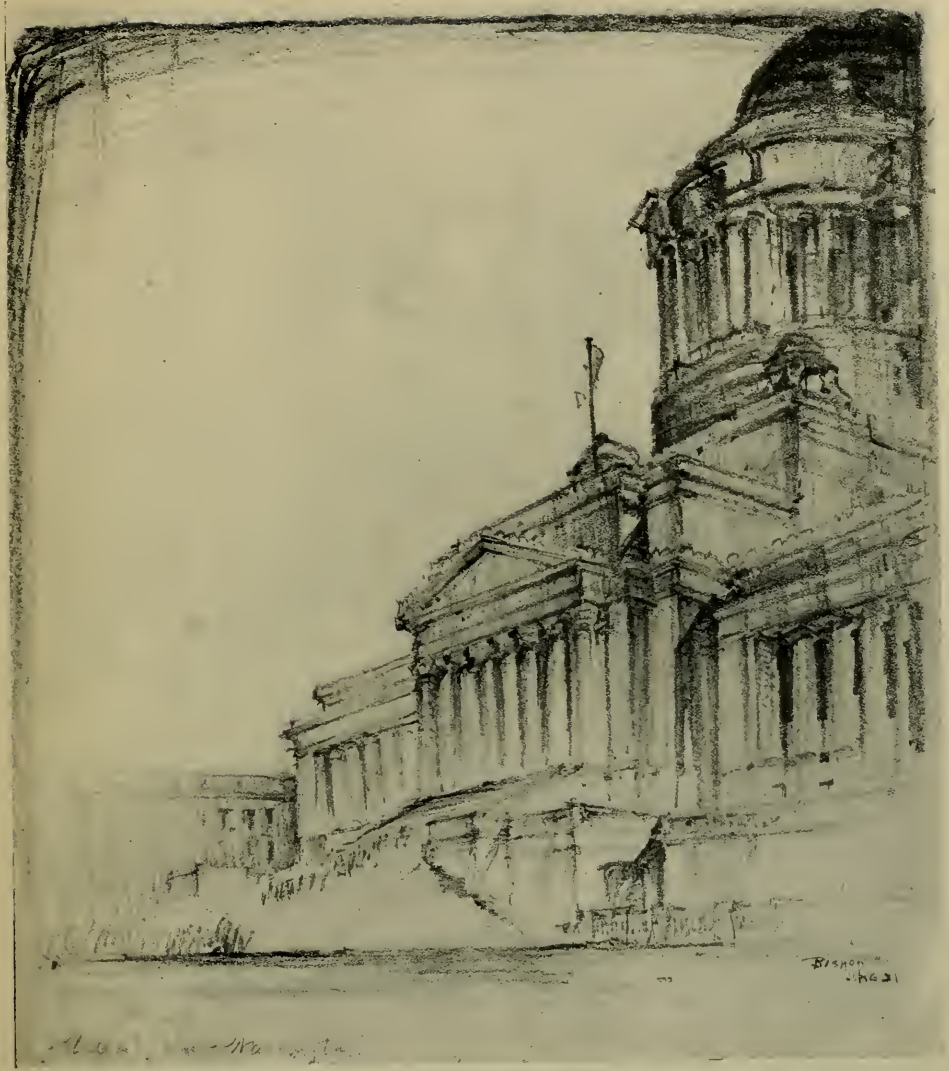
R. J. BISHOP

Subjects are in
Washington State



UNDER 11TH STREET BRIDGE, TACOMA, WASHINGTON

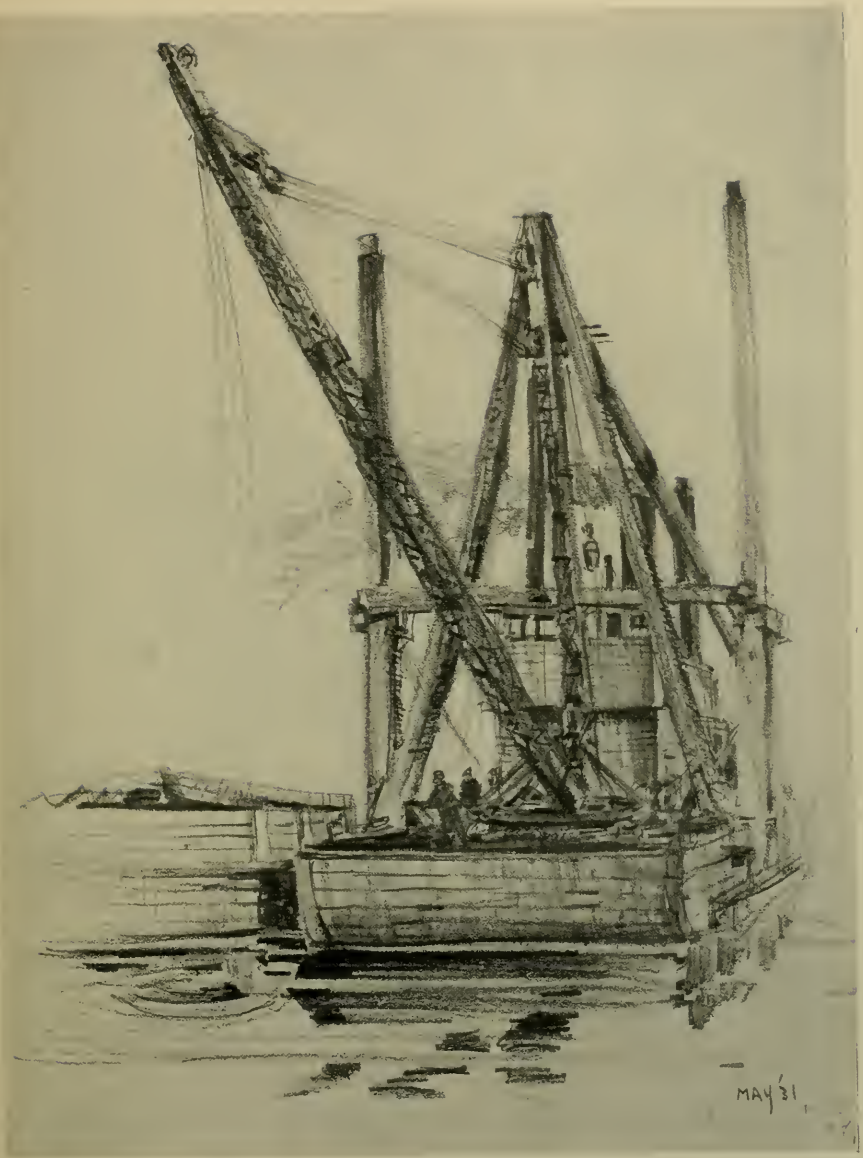
DRAWN WITH CONTE PENCIL BY R. J. BISHOP



STATE CAPITAL BUILDING, OLYMPIA, WASHINGTON

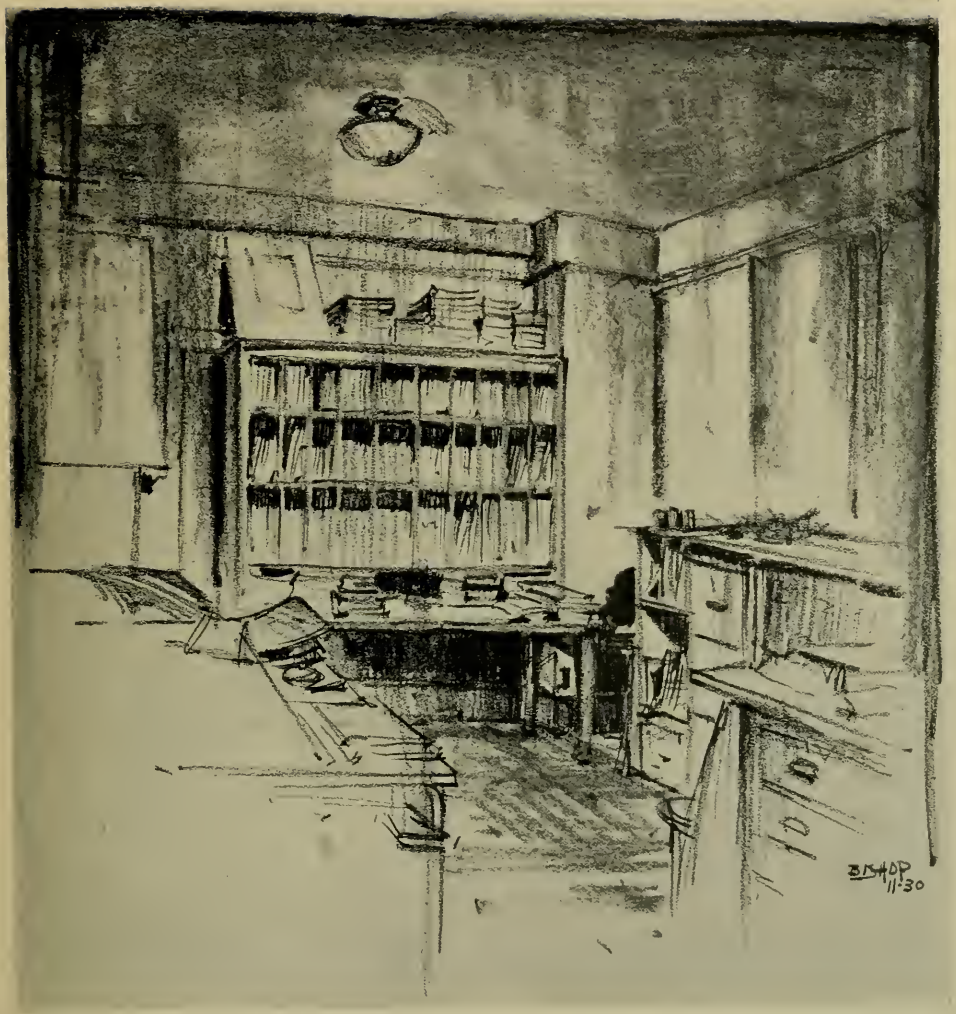
PENCIL SKETCH BY R. J. BISHOP

(This sketch was made at the joint meeting in Olympia of the Oregon-Washington Chapters, A.I.A.)



DREDGERS AT WORK

DRAWN WITH SOFT LEAD PENCIL BY R. J. BISHOP



CORNER IN ARCHITECT'S OFFICE

CHARCOAL SKETCH BY R. J. BISHOP

PRESBYTERIAN CHURCH, TACOMA, WASHINGTON

DRAWN WITH BLACK CHALK BY R. J. BISHOP

ST. LUKES CHURCH, TACOMA

DRAWN WITH BLACK CHALK BY R. J. BISHOP

ADVANTAGES OF HOUSE INSULATION

by
RUSSELL E. BACKSTROM
Insulation Specialist

IN the native's tropical hut, in the Eskimo's icy shelter, and in the twentieth century home, protection against the elements is a common problem.

Thick layers of grass thatch the huts of the African natives to shield them from the sun. In the arctic regions, refuge from the sweeping blasts of cold is sought in igloos built layer upon layer of loosely packed snow blocks. In the modern home, comfort, as well as protection, is made possible through the use of the various building products now available.

In each case protection against heat or cold is attained through the use of materials having a structure composed of millions of minute air pockets. The history of insulation dates from the time such materials were first turned to man's need. Where nature stopped in providing inexpensive materials with good insulating properties, human ingenuity has carried on, until today there are scores of specially prepared products for use in building construction.

These man-made heat-resisting products are built into the walls, floors, and roofs of modern homes either as structural parts of the building or as materials added purely for their insulating value. Although generally they may be installed more easily and economically at the time of building, they also may be applied to houses already erected. In fact, insulation has come to play an important part in making comfortable those homes which originally were not constructed to take sufficient account of heat leakage.

If materials with poor insulating properties are used, greater attention must be given to heating the home than otherwise, and more fuel is required. Not only are comfort and health promoted by the proper use of materials with high insulating values, but appreciable savings are made possible. Even in the insulated house, however, considerable heat may pass through glass and leak through cracks around openings. Obviously, such heat loss is not affected by insulation in walls and roofs. To obtain maximum protection against such conditions, storm windows and doors, as well as calking and weather stripping around all windows and doors, will be found effective.

Aside from its place in the construction of the home, insulation has numerous additional uses. Moreover, its effects are so far-reaching that there is hardly a person who is not benefited by its use.

Fast cross-country trains, made up of refrigerator cars adequately protected with insulation against the ever-changing temperatures of summer and winter, carry their contents of meats, dairy products, fruits, and vegetables to distant cities. Sleeping cars, as well as chair cars, are thoroughly insulated, to insure greater comfort for passengers.

Refrigerators, whether cooled mechanically or with ice, are specially constructed and insulated, to prevent food spoilage and to insure efficient and economical operation.

The motorist frequently does not realize that his automobile is insulated. Upon examination, however, it will be found that most passenger cars have a layer of heat-resisting material in the dash-board to protect the driver from the heat of the engine.

Cabin airplanes are insulated to maintain comfort for their passengers in the frigid high altitudes.

*A report of the Subcommittee on House Insulation, its Economies and Application, of the National Committee on Wood Utilization, U. S. Dept. of Commerce.

In his polar expeditions, Rear Admiral Richard E. Byrd used insulation to protect men and equipment from the severe cold.

Although the value of insulation is obvious, the problem for the home builder or home owner is how to obtain maximum effectiveness from the wide assortment of materials available for insulating purposes. He is looking for a product that will give adequate protection with a minimum cost of material and labor.

Methods of application are equally as important as the selection of the material itself. Those who would have the greatest home comfort, therefore, will benefit by a knowledge of the fundamentals of insulation.

Economy and comfort are the two outstanding reasons for installing insulation in a home. On cold days uniform comfortable temperatures are obtained at minimum expense and effort if the house is adequately insulated. On summer days, insulation helps to keep rooms, both upstairs and down, comparatively cool and comfortable.

In cold climates economy is effected through lowered fuel costs and smaller heating plants. Should cooling be resorted to in hot weather, air conditioning plants may be maintained more economically in insulated buildings.

Comfort, although it can not be measured in terms of dollars and cents, is equally important, because frequently it is directly related to health. In the well-insulated house, comfort is more readily assured through uniform temperatures and decreased drafts. In winter months the need for frequent furnace firing is lessened. When the mercury is up around the 90° mark, insulation helps to shut out the excessive heat of the sun, thereby reducing the afternoon room temperatures, and making the upper floor rooms comfortable.

Since insulation enhances the comfort and desirability of a house, it naturally follows that well-insulated houses should represent greater loan and resale values.

The cost of insulating is but a small proportion of the total cost of the house and the resulting additional comfort and fuel saving are considerable.

Lower Fuel Costs

Even with the heating plant functioning at its best, only 50 to 75 per cent of the available heat in the fuel is actually transmitted to those parts of the house to be warmed. Some of the heat escapes through the chimney, and some is lost because of poor firing. Under these conditions, it behooves the home owner to take every practicable step possible to conserve heat. Insulation of walls, floors, and ceiling is an excellent means to this end.

Other things being equal, the house protected with effective insulation will require less fuel to maintain the same degree of comfort than the house which is without insulation. This fuel saving over a period of a few years usually will pay for the insulating material. Factors that determine the length of this period are (1) the net cost of the material installed and (2) the value of the fuel saved. In localities where the winters are long and severe or where the fuel is expensive, the cost of insulation may be repaid in a comparatively short time—in many instances from two to four years. In climates only moderately cold, however, or where cheap fuel is used, this period will be considerably longer.

The United States Bureau of Standards gives the following approximate yearly savings in fuel from insulating the ordinary dwelling. These savings are expressed in percentage of fuel which would have been required for a similar house without insulation or weather stripping, and are based on the assumption that the insulation is applied to both walls and roof, and that it is not used to replace any other material in the uninsulated structure.

Adding one-half-inch layer of insulation saves 20 to 30 per cent.

Adding 1-inch layer of insulation saves 30 to 40 per cent.

Smaller Heating Systems

Since insulation reduces the amount of heat needed to maintain comfortable living conditions, it follows that a smaller heating system will suffice in an insulated structure. In the event of hot-water, steam, or vapor system is used, smaller or fewer radiators, and possibly a smaller boiler, may

reasonably represent a substantial saving on the part of the owner. This initial saving, which often is applied toward the cost of the insulation, may represent approximately 5 to 15 per cent of the cost of the heating equipment.

With a warm-air system, however, the initial cost of which is usually less than that of the other types, considerably smaller savings will result from a reduction in size of furnace and piping.

In houses where the heating equipment is found to be too small, insulation in the walls and roofs will serve as an effective means of conserving heat, thereby tending to offset the inadequacy of the system.

Bodily comfort, which depends so much upon proper room temperature and proper humidity, may be more readily assured when the walls and roof of the home are protected with an efficient heat-resisting material. By retarding the escape of heat, insulation makes possible uniform temperatures throughout. Large temperature variations frequently found in the rooms of an uninsulated house are practically eliminated in a well-insulated structure. Moreover, when the house is adequately insulated, properly humidified air, so conducive of good health, may be maintained with little danger from condensation and the consequent marring of walls and ceilings.

Tests made recently at the University of Illinois indicate that with the same room temperature in two houses—one with walls insulated and windows storm-proofed, and the other without such protection — the body would have a greater sensation of comfort in the insulated house. This is explained by the fact that the walls and glass in the insulated house, with their consequent higher inside surface temperature, have a less chilling effect upon the body than the colder surfaces of the uninsulated structure.

Just as in winter the use of insulation retards the passage of heat from the inside to the outside of a house, so in summer it resists the inward flow of heat. That is why it is easier to maintain comfortable temperatures in the well-insulated house during hot summer days than in the non-insulated structure. Numerous experience records show that the adding of insulation has, in many cases, resulted in reducing room temperatures from 10° to 15° below those of the uninsulated house.

Air Conditioning

It has been predicted that within a few years the householder will make his own weather the year around, furnishing heat and properly moistened air to his home in winter, and cool, refreshing air during the hot summer months. When this time arrives, walls and roofs having high resistance to heat passage will be essential for the economical operation of the cooling equipment. With this in mind, therefore, far-sighted home owners who build now will give serious consideration to this matter of providing their homes with effective insulation.

A cold spell customarily leads to unusual demands on heating facilities. Fires are given full draft and furnaces pushed to the utmost. Unless care is taken, overheating with its consequent danger of setting fire to the house may result. In an insulated structure, such hazards are reduced, since a sudden drop in outside temperature does not effect a correspondingly sudden inside variation.

Types of Insulation

During the past few years there has arisen an ever-increasing demand for insulating materials. As a result, new products are constantly appearing on the market. In the United States alone, there are more than 40 different brands of insulation from which the consumer may choose.

The various insulating materials commonly used in building construction fall into four general classes, namely, (1) rigid, (2) semi-rigid, (3) flexible, and (4) fill. The names of these types are descriptive of the materials themselves.*

Rigid insulation is manufactured in panels of various sizes. In addition to insulating properties, this type usually possesses structural strength. It can be sawed and nailed, and certain makes are often described as "board insulation."

*Insulating materials, especially the rigid or board type, should not be confused with fabricated "wallboards," some of which are made from similar raw materials. Wallboards usually are thinner and denser than the fibrous insulating boards.

The rigid form is adapted to a wide range of uses. In the construction of a house it may be employed solely for its insulating value. Because of its rigidity, however, it is often utilized as a combination insulating and structural material, such as sheathing on the outside of framing members, and as a plaster base within. Frequently it is used to form attractive wall surfaces for various rooms in the house.

Structural rigid insulation is commonly made in panels 4 feet wide and 6, 7, 8, 8½, 9, 10 and 12 feet long, and usually in thicknesses of approximately one-half, three-fourths, and 1 inch.

Some fiber boards and other insulating materials, such as cork board, are produced in small panels having thicknesses of 1, 1½, 2, or 3 inches. Widths of these panels range from 12 to 24 inches and lengths from 32 to 64 inches.

Rigid insulation for plaster base is manufactured 16 to 24 inches wide and 48 inches long. The lengthwise edges of these pieces usually are tongued and grooved, or ship-lapped. Small plaster base sheets, in general, come in thicknesses of approximately one-half, three-fourths, and 1 inch.

Panels of *semirigid* insulation, sometimes called "felts," are less rigid than board insulation and possess a certain degree of flexibility. In some instances these panels are combined with metal lath.

Semirigid materials serve primarily as insulation. These products are manufactured in sheets approximately one-fourth, one-half, three-fourths, and 1 inch in thickness; in widths of 16½, 24½, 32, 36, and 48 inches; and in lengths of 4½, 8, 8½, 9, 9½, and 10 feet. The panels to which metal lath is attached usually are 24 inches wide, 42 inches long, and one-half to 1 inch in thickness.

Flexible insulating material consists of a loosely felted, fibrous mat usually covered on both sides with a layer of paper or fabric. It is sometimes referred to as "blanket" and "quilt" insulation.

Flexible insulation is used solely for its insulating properties. Because of its nonstructural character it will not serve as sheathing or plaster base — it is always used in addition to standard construction. Its light weight and loosely matted form make it suitable for packing cracks around openings and for fitting into irregular-shaped spaces. Flexible insulation is produced in strips approximately 17, 25, 33, and 36 inches wide, and in lengths up to 100 feet. The thickness ranges from one-fourth inch to 1 inch.

Fill insulation is powdered, granulated, or shredded material. It comes in bulk lots and, as the name implies, is used for filling spaces in wall, floor, and ceiling.

Fill material can be applied in houses under construction or those already completed by packing or blowing it into spaces between framing members. Its insulating value varies with the properties of the raw materials used and according to the density with which the material is packed. Fill insulation is usually placed between studs, ceiling joists, and roof rafters, where it fills spaces of considerable size.

Insulating products are manufactured from a variety of raw materials. Those commonly used are: Asbestos, bagasse (sugar-cane stalks), cork, cornstalks, cotton, eel grass, flax straw, gypsum, hair, jute, kapok, lead slag, licorice roots, limestone, moss, paper pulp, wheat straw, and wood.

As the National Committee on Wood Utilization deals primarily with forest products, materials other than wood are discussed only briefly in this bulletin. Products manufactured from other raw materials may be equally effective and may give equally satisfactory service, and many of the statements made with reference to wood products apply as well to similar products made from other materials.

Since it is a good heat insulator, wood has become a widely used raw material for insulating products. It is economical and readily available. In instances where the manufacturing plant is operated in connection with a sawmill or paper mill, the slabs, edgings, and trimmings of logs and screenings from pulp are utilized as raw material. Formerly much of this material was burned or otherwise destroyed. In other cases, trees that can not be utilized

economically for lumber are employed in the manufacture of insulating materials.

General Considerations

Most building materials possess heat-resisting properties to some degree. Those products known as commercial insulating materials, however, have these properties to such an extent that even relatively thin layers will retard effectively the passage of heat.

It is a recognized fact that differences exist in the insulating values of the respective heat-resisting materials. In fibrous products these differences are attributed to such factors as the kind of raw material, the size and arrangement of fibers, the moisture content, and the density with which the fibers are packed. In determining the relative insulating value of the various commercial heat-resisting materials, density is probably the most important consideration, and it may be said that "in general, the lighter the material per unit of total volume, the better its insulating value per inch of thickness." (This refers only to the insulating properties of dry materials in still air.)

Greater effectiveness results when the insulating material is used in addition to the standard construction, rather than to replace another product such as wood lath or sheathing. This is obvious when it is considered that the building products replaced usually have insulating values which necessarily are lost when those materials are omitted from the construction.

Insulating materials show greater effectiveness when applied in the middle of an air space, such as that between the studs in a frame wall, than when placed on contact with another material such as sheathing, lath, or plaster. The reason is that an additional air pocket is formed, which is in itself somewhat of an insulator. A ½-inch layer of insulation applied in the center of an air space is the equivalent of a little more than three-quarters of an inch added at some other place in the wall; a 1-inch layer is the equivalent of a little more than 1¼ inches.

The heat loss from the average uninsulated house during the winter months is estimated as follows: 40 to 60 per cent goes directly through walls, floors, and roofs; 15 to 30 per cent leaks through cracks and crevices; and 20 to 35 per cent is conducted through windows and doors.

In poorly built houses a much greater loss occurs through cracks and crevices. In such cases it is not uncommon to find large openings at the eaves where the wall sheathing has not been carried up between the rafters. This permits cold air to sweep across the attic floor, carrying away heat which has escaped from the rooms below. In the basement, excessive leakage may occur at the sill where the framework and foundation meet. To prevent the sacrifice of the effectiveness of insulation, all such cracks and openings, as well as those around windows and doors, must be blocked off. In some instances the insulating material itself can be used as calking for this purpose.

The home builder should realize that despite the numerous advantages of insulation, its application is limited, after all, to walls, floors, and roofs—those parts of a house which are responsible for only a portion of the total heat passage. Obviously, a house that is drafty because of loose-fitting construction can not be heated properly, regardless of how well it is insulated.

From a standpoint of winter comfort and fuel saving, all wall, roof, and floor areas exposed to cold temperatures should be insulated. Cornices should be tightly constructed, especially between the rafters. "Fire stops," particularly at floor levels, used to block off air passage in case of fire inside the walls, will act also as valuable aids in preventing heat loss. Such construction minimizes air circulation within the walls and prevents the direct escape of heat caused by the "chimney effect" of an unobstructed vertical air space. Windows and doors should be weather-stripped, and cracks around frames in masonry walls should be calked. In climates where severe weather prevails, windows and doors should be storm-proofed. With generally tight construction throughout then, the house will have maximum protection against changing temperatures.

House of a

THE voices in the House of a Thousand Voices began to speak. Herbert Hoover, standing in the cabinet room of the White House, said, "The opening of the new Waldorf-Astoria is an event in the advancement of hotels." In New York, Lucius Boomer, president of the Waldorf, thanked Mr. Hoover and said, "We have built with confidence in our country's growth and prosperity."

Erno Rapee's symphony orchestra, playing in the grand ball room, swung into the Star Spangled Banner and some 12,000 people who were at that moment streaming through not only the ball room, but the foyer, lobby, walks, corridors and dining rooms of the new hotel, stood stock still.

Room guest selects one of the six programs made available through the hotel's radio distribution system and this specially designed loudspeaker

Waldorf-Astoria Hotel, New York, N. Y.

No matter where their curiosity to see had taken them—whether to the intimacy of Peacock Alley, the murals of the Sert Room, the colors of the Empire Room—their curiosity to hear was being satisfied. The program reached them from loudspeakers which gently proclaimed their message from walls, ceilings and doorways. The loudspeakers were heard but not seen. Only the practiced eye could tell that from this piece of fancy grille-work, from that silk curtain, or this sliding panel of glass, the words of Mr. Hoover, Mr. Boomer and the strains of the Star Spangled Banner were issuing.

The opening of the new Waldorf-Astoria attracted in all some 20,000 people to view its sumptuous interiors. All afternoon and evening notables, greater and lesser, poured through its portals, gazing, touching, listening, exclaiming, while

Thousand Voices

Room 615 in the Waldorf-Astoria, where programs are switched from radio to public rooms to phonographs, and the quality of reproduction is supervised

some of the gray-haired stopped to tell Oscar how they remembered the day when the first Waldorf opened long ago.

Room 615, marked "Radio", was quite remote from this stir. There, in panel after panel of shining black rising from floor to ceiling, tubes glowed yellow and blue, needles danced over dials and gentlemen with fingers that know the feel of a tuning knob kept a sharp eye on these things and a sharp ear on the declarations emerging from a loudspeaker modestly housed behind a mural grille. This was the control room, nerve center of the most complete system for the electrical distribution of entertainment ever brought together under one roof. The Bell Laboratories have so ingeniously designed this system that the gentlemen at the dials can do with it about anything that now lies within the realm of loudspeakers, microphones, radios and phonographs.

Six programs can be made available simultaneously over the entire system. These programs can originate from any combination of three sources: radio, picked up from the air or wired directly into the hotel from broadcasting studios; events going on in any of the hotel's public rooms; recorded entertainment as furnished by two music reproducers.

The particular combination that is being offered at any time is determined by the program director. He can, for instance, be picking all six out of the air if he wishes. Or he can offer three radio programs, the music of one of the hotel's orchestras, speeches going on at a banquet in the hotel,

The curtain above this doorway in one of the public rooms of the Waldorf-Astoria conceals a loudspeaker

and phonograph records. What can be done with these programs after he has them? First, he can amplify them into one or all of the 17 public rooms in the hotel; second, he can send them to the 1,940 guest rooms; third, he can transmit three of them to broadcasting studios by wire.

Or look at it another way. A notable is making an important speech in one of the public rooms. His words are picked up by a microphone. They can be amplified in the room where he stands, in every other public room, in every guest room, and simultaneously be going to a broadcasting studio and from thence on the air.

Microphones can be connected at 72 locations in the hotel where events are likely to occur. Twenty-five loudspeakers, ranging in size from several as tall as a man, to a variety of smaller ones, give every public room a voice.

Every guest room is connected to the system. A guest wants radio service. He notifies the hotel switchboard and in a few moments a loudspeaker is delivered to his room and plugged in for him. This loudspeaker, displaying the Waldorf monogram, has two controls: one to select a program from the six channels; the other for volume. The maximum volume available is determined in the control room so that it can never be loud enough to annoy guests in adjoining rooms.

In the array of equipment in the control room are six modern broadcast receivers. The amplifiers are 250 times as powerful as the average home radio set used to operate loudspeakers.

Six hundred feet above the street level are three antennas. One is the pick-up for the general radio distribution system and feeds it over a transmission line 700 feet long The antenna itself is terminated in special protective and impedance-matching equipment located in a small metal box inside one of the towers of the hotel. The transmission line is probably the longest in any system of this kind.

Two additional antennas are strung between the towers. They supply radio reception to the 138 private suites in the towers. Residents in these suites can have their own radios and pick up any program they please without disturbing the reception of their neighbors using the same antenna. This is made possible by an improved method designed by the Bell Laboratories.

Each of the tower antennas is terminated in equipment similar to the terminal of the main antenna. From this equipment, a transmission line leads down into the interior of the towers, following one of the steel structural columns. On each floor are located "electrical closets" which contain separate amplifiers for each suite. The long experience of our engineers in the design of transmission lines enabled them so to perfect this system that the private radio sets can be located as much as 250 feet from the amplifier. Heretofore the maximum distance has been 20 feet. This often necessitated placing the amplifying equipment right in the suite.

Among the imperfections long encountered by those using "community" antennas, have been hum modulation, phantom stations and the squealing fed back into the system by the tuning of a heterodyne set somewhere else on the line. These have been eliminated in the Waldorf's tower system by such devices as balanced, neutralized amplifiers and indirect heater tubes. The result is that the radio user gets the same quality as though he used a private antenna.

In the ground ball room is a permanent installation of sound picture apparatus of the theatrical type and there are also portable sound picture systems which can bring the talkies to any public room in the hotel.

Telephones and teletypewriters, caring for both the spoken and written message, represent the most extensive communication system ever installed in any hotel served by the Bell System. The switchboard has positions for 28 operators. Approximately 3,200 telephones are provided for guests, in addition to the private telephones in the Tower suites served by individual lines to the central office. About 600 of the telephones are portable handsets which may

be plugged into the rooms as guests find it convenient.

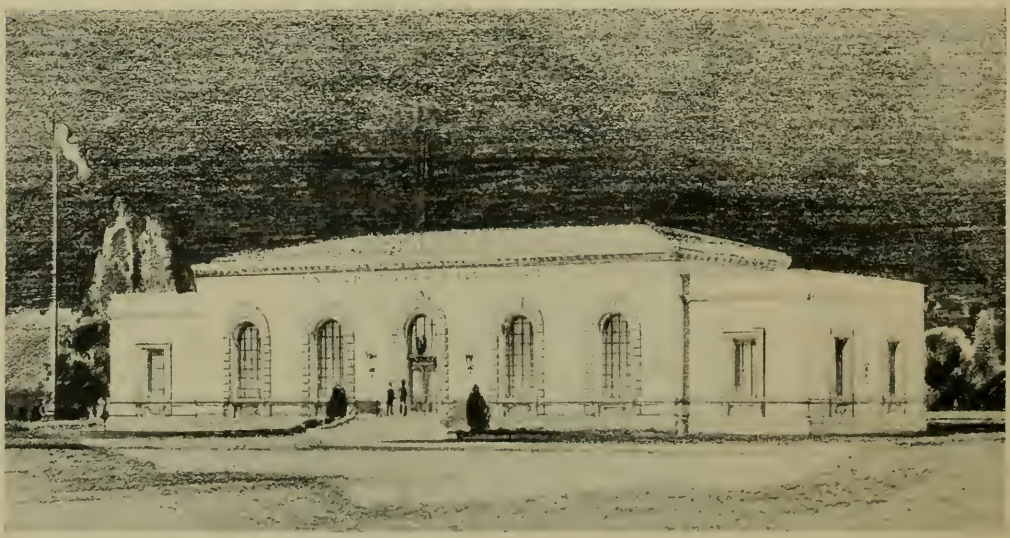
For the use of the management there is a dial system capable of serving about 500 telephones located in executive quarters, corridors, pantries, etc. These telephones can connect with the guests through the manual switchboard. The entire system is served by 125 trunk lines to the central office.

The teletypewriter system, although it operates so unobtrusively that for the most part it is unnoticed by guests, nevertheless caters materially to their needs. It comprises 66 machines, divided into two main groups. One group handles the business attendant upon arrivals and departures. When a guest comes to the hotel, word of his arrival precedes him with a speed that is as flattering as it is mysterious. The second group handles paging and messages. If the guest sought for is out, the message intended for him is sent by teletype to his floor and is delivered to him when he returns. From any one of the sending machines in the telephone room messages may be transmitted to receiving machines which are accessible to the bell captain, porter, tower housekeeper, room clerk, valet or to receiving machines located on 22 floors and in the tower office.

Viewed altogether, the Waldorf embodies a striking concentration of communication equipment. Here in one building are talking pictures, phonographs, radio programs, public address systems, teletypewriters, and telephones, dial and manual. The hotel is very nearly a recapitulation of the products that have sprung from the laboratories of telephony.

SUGGESTION FOR A MONUMENTAL SHAFT
ON TELEGRAPH HILL, SAN FRANCISCO
By Renato Corte

POST-OFFICE BUILDING,
BEVERLY HILLS, CALIFORNIA
Ralph C. Flewelling, Architect
Allison and Allison, Consultants



Courtesy Southwest Contractor and Builder

POST-OFFICE BUILDING,
MERCED, CALIFORNIA
Alllson and Allison, Architects

THE STANDARDIZATION OF SPECIFICATIONS FOR MATERIALS AND EQUIPMENT

by
F. M. RANDLETT
C. E.

STANDARDIZATION is essentially the bed-rock of civilization. The origin of standardization goes back to the crude beginning of human culture. The earliest records of which we now have any knowledge were the standards of weights and measures of ancient Babylonia and Egypt. The Ten Commandments are basic standards of modern ethics. Barter and trade developed a standard medium of exchange or money. The development of these early standards to the present methods of effecting commercial transactions is a history of interest and value that cannot be covered here.

In this brief introduction I simply wish to emphasize that standardization has been essential to the development of our civilization and is particularly necessary now if we are to advance in the next decade at the pace we have in the past. No one can doubt that the standardization of materials, of machines, of processes, and of products of manufacture, has been one of the prime aids to American progress.

Before proceeding directly to my subject, I feel it necessary to emphasize three matters that should be given careful consideration by all engineers preparing specifications and contracts. First, the use of standard terms, abbreviations, symbols, constants, and other nomenclature. We engineers must use a standard language to be properly understood. Second, our specifications, contracts, and other technical procedure must not overlook dimensional standards that have been set for various commodities of which mention might be made of bolts and nuts, pipe flanges, fittings, etc. Third, we should follow a standard form in the preparation of contracts and specifications so that nothing is overlooked and that important general matters such as responsibility, payments, etc., are legally covered.

With these matters so briefly disposed of, we approach the subject "Standardization of Specifications for Materials and Equipment", as follows:

EDITOR'S NOTE: This paper was presented before the California Section, American Water Works Association, at Stockton, October 28-31, 1931. While its contents are intended to appeal primarily to water works men, the bulk of the matter is applicable to most construction and building work. The author is Pacific Coast manager of the Robert W. Hunt Company, engineers.

We probably will never reach the point where standardization of specifications can extend to the complete specifications for a project. Standard specifications cannot conceivably replace the service furnished by the Water Works engineer in drawing up a specification in a contract form for a water works installation. This is manifest, as geographically, geologically, biologically, and logically, conditions are different. However, the standardization of specifications for materials and equipment is of prime importance to the Water Works engineer in enabling him to fit into his project, standard materials and equipment; that make it possible for him to turn out a finished installation with a maximum of efficiency, hydraulically, mechanically, electrically, and financially. The recognition and use of such standard specifications enables him to concentrate his attention to the planning of the installation and to the development of specification requirements for such materials and equipment as may not yet be covered by standard specifications. If you will please accept this view of the way of using standard specifications, you will recognize that the work of the engineer is far from weakened by his use of standard specifications. His operation is definitely strengthened, as he is using the judgment of the entire engineering profession.

The use of the word "standard" naturally raises the question—what is a standard specification? Primarily a standard specification is a specification adopted as standard by some party. First, a specification may be a standard of one consumer or it may be that of the manufacturer where a specialty is involved. When such a specification is found effective its use naturally extends to other consumers as a result of the brotherhood of engineers. When it has spread this far, the association of consuming interests, such as our own American Water Works Association, may advance the specification to a standard of that association. By that time, the standard reaches recognition in trade from the manufacturing point of view. The material or equipment is used in other industries. The next stage is that represented in the activities of the American Society for Testing Materials which represents the collaboration of various consuming interests with producing interests in the standardization of material specifications. Beyond this, we have the final national classification of the American Standards Association.

It is the purpose of the American Standard Association to serve as a clearing house through which trade associations, technical societies or governmental departments can develop national standards. Today, the American Standards Association is essentially a federation of forty-five national technical societies, trade associations and Federal Government Departments. In the formulation of their Sectional Committees to which are assigned the standardization of particular materials or equipment, it is necessary that they appoint representatives from all consuming and producing interests that use or manufacture such materials or equipment in the United States.

It is not necessary for the water works engineer to use only such standards as have been advanced to American Standards Association approval. To use the advantages of standardization, the standards of any individual engineer, any trade association, technical society, or government department can be taken. They are all based on careful study and serve a definite purpose, that is valuable when properly applied to your uses.

Even with the greatest possible use of existing standards, there will be many materials and equipment items on which you individually must sooner or later commence to set your own individual standards, putting them in line for group use, associating use, and eventually national standard use. To do this you will continually have work to do in the formulation of specifications. In the preparation of any such specifications, there are certain major matters that are worthy of mention.

1. A specification for a product should contain the fewest possible restrictions, consistent with obtaining the material desired.

2. The service which the product is to perform, in connection with reasonably feasible possibilities in its manufacture, should determine the limitations of a specification.

3. All parties whose interests are affected by a specification should have a voice in its preparation.

4. Excessively severe limitations in a specification are suicidal. They lead to constant demands for concessions, which must be made if the work is to be kept going, or to more or less successful efforts at evasion. Better a few moderate requirements rigidly enforced, than a mass of excessive limitations, which are difficult of enforcement, and which lead to constant friction and sometimes to deception.

5. There is no real reason why a specification should not contain limitations derived from any source of knowledge. If the limitations shown by physical test are sufficient to define the necessary qualities of the material, and this test is simplest and most easily made, the specifications may reasonably be confined to this. If a chemical analysis or a microscopic examination, or a statement of the method of manufacture, or information from all four, or even other sources, are found useful or valuable in defining limitations, or in deciding upon the quality of products furnished, there is no legitimate reason why such information should not appear in the specifications. Neither the producer nor the consumer has a right to arrogate to himself the exclusive right to use information from any source.

6. Proprietary articles and commercial products made by processes under the control of the manufacturer cannot, from the nature of the case, be made the subject of standard specifications. The very idea of a specification involves the existence of a mass of common knowledge in regard to any product, which knowledge is more or less available to both producer and consumer. If the manufacturer or producer has opportunities, which are not available to the consumer, of knowing how the variation of certain constituents in his product, will affect that product during manufacture, so also does the consumer, if he is philosophic and is a student, have opportunities not available to the producer, of knowing how the same variation of constituents in the product will affect that product in service under special conditions with which he is familiar, and it is only by the two working together and combining the special knowledge of each, that a really valuable specification can be made.

7. A complete workable specification should contain the information needed by all those who must necessarily use it in obtaining the product desired.

8. Where methods of testing, analysis, or inspection are well known and understood, it is sufficient if the specification simply refers to them. Where new or unusual tests are required, or where different well-known methods give different results, it is essential to embody, in the specification, sufficient description to prevent doubt or ambiguity.

9. All specifications in actual practical daily use need revision from time to time, as new information is obtained, due to progress in knowledge, changes in methods of manufacture, and changes in the use of products. A new specification, that is, one for a product which has hitherto been bought on the reputation of the makers and without any examination as to quality, will be fortunate if it does not require revision in from 6 to 10 months after it is first issued.

10. A complete workable specification for a product represents a very high order of work. It should combine within itself the harmonized antagonistic interests of both the producer and the consumer, it should have the fewest possible requirements consistent with securing a satisfactory product, should be so comprehensive as to leave no chance for ambiguity or doubt, and above all, should provide for inspection and tests that will protect the consumer in his purchase.

There is at present a distinction existing between standard specifications for materials and standard specifications for equipment. In our consideration of both of these subjects, we will confine our attention to engineering materials and engineering equipment.

Standard specifications for materials are essentially standards of quality involving test requirements that indicate a proper measure of usefulness. In addition to quality requirements they should include provisions that will result in a high standard of usefulness in their application. Such items are tolerances, workmanship, and inspection provisions. Not only should material comply with certain stated quality requirements but should comply with

standards of first-class workmanship in all particulars. When materials are bought in considerable quantities or where they are vital construction materials, or where they are materials essential to the continuous operation of a plant or machine, or when their failure in service will involve danger to human life or probable service or where failures may result in appreciable monetary loss, such material must be most thoroughly inspected. Otherwise the preparation of any specification is superfluous. Inspection of such materials can best be done and most effectively accomplished at the point of manufacture by direct representatives of the consumers, and provisions in the specifications must be made for such inspection. A standard paragraph for this requirement is as follows:

> "The inspector representing the purchaser shall have free entry at all times while work on the contract of the purchaser is being performed, to all parts of the manufacturers works which concern the manufacture of the material ordered. The manufacturer shall afford the inspector, without charge, all reasonable facilities to satisfy him that the material is being furnished in accordance with these specifications. All tests (except check analyses) and inspection shall be made at the place of manufacture prior to shipment, unless otherwise specified, and shall be so conducted as not to interfere unnecessarily with the operation of the works."

Some have expressed opinions that this clause should be a little more definite as to furnishing facilities for examination of the finished product of surface defects and checking of dimensions and weights. Some have even advocated that the acceptance as to quality shall be final when inspection is made and tests have been fulfilled.

There are other materials used in less quantity and not so vital to the operation of a plant or to safety that may not require detailed inspection. In general, the inspection and test of such material is accomplished by arranging for periodical tests on samples taken at random from deliveries made. No standard specification is satisfactory to a consumer unless the material furnished under it is regularly and constantly being tested in accordance with the requirements of said standard specifications.

Inspection and tests are a fundamental adjunct to the entire program of standardization and, as a matter of fact, to any successful engineering construction.

The general term of "equipment" covers a large field—from small devices to the largest mechanical and electrical equipment. Generally speaking, the equipment represents the development of individual manufacturers. A standard specification cannot be extended to the same detail as can material specifications. There are, however, important points in connection with the specifications for equipment that should be carefully considered. Specifications for operative efficiency for machines and devices, known as standards of performance, specifying the factors involved in terms susceptible of measurement. Numerical statement of speed, uniformity, output, economy, durability, and other factors which together define the net efficiency of an appliance or machine.

It is also important to specify that materials used in the construction of such equipment must be furnished to standard material specifications so that proper standards of materials shall be used in the construction thereof. In drafting such specifications, research data from experiments may include any or all of the following:

(a) Listing the functions to be served.
(b) Measuring the elements which serve each item of use.
(c) Setting the 100% efficient performance.
(d) Defining the basis of acceptance.
(e) Devising means to measure each factor pertinent to the service.
(f) Including specifications for performance or duty tests.

The requirements for the large field of equipment makes it practically impossible to give a more comprehensive picture of the method of arriving at sound and comprehensive specifications for equipment. Mention, however, might be made of the fact that municipal, state, and government codes and regulations should be studied

for the technical regulation of the construction and installation. Such codes provoke efficiency and convenience in the maintenance and operation of the equipment with fire protection and safety provisions.

To much the same extent as on materials, specifications for equipment should include provisions for inspection and tests os that the inspector representing the consumer on vital equipment can see that proper materials are used and that they are fabricated in a first-class workmanlike manner. Tests of completed equipment when not of large size can be accomplished at point of manufacture, but on large power or pumping installations due provisions should be made for duty or performance tests after installation. These duty tests should be conducted under the direct control of the consumer or representative and be the basis of final acceptance and payment for the equipment.

Many of the standard specifications cover requirement of a device or piece of equipment in general as to dimensions and capacity only. To such specifications must be added such definite and concise statements as will make it evident what requirements must be met as to strength, durability and efficiency of operation.

Avoid general clauses that are not definite as they are usually matters of opinion often impossible of enforcement and probably illegal.

The development and use of standard specifications is a matter of vital importance to progress. We are all in the public service working for the welfare of civilization. We are using the peoples' money to do this. By developing and using standard specifications, we engineers will keep abreast of this age of scientific advancement. The net result will be materials, equipment, and installations that will give the maximum of usefulness, serviceability and efficiency — a maximum utility at a minimum cost.

John Bakewell, Jr., Lewis P. Hobart and Emerson Knight have been appointed members of the newly established San Francisco Art Commission.

ENGINEERS QUALIFY

Authority to use the title "structural engineer" has been granted by the Board of Registration for Civil Engineers to the following California engineers:

Charles J. Erickson, Beverly Hills.

Walter Putnam, Pasadena.

Harry W. Bolin, Charles N. Bley, Francis J. Clapham, and Victor H. Poss, Berkeley.

Merton C. Collins, Russel H. Cooley, Will G. Corlett, Robert D. Dalton and Francis B. Plant, Oakland.

Clarence H. Kromer and D. C. Willett, Sacramento.

R. C. Buell, San Anselmo.

Wilhelm Adrian, Archibald A. Brown, H. J. Brunnier, Thomas F. Chace, Erle L. Cope, Maurice C. Couchot, William P. Day, W. H. Ellison, Ernest D. Francis, John D. Gallaway, S. S. Gorman, Frederic F. Hall, Walter L. Huber, A. M. Nishkian, Trygve Ronneberg, Jesse Rosenwald, Earle Russell, A. V. Saph, Jr., C. H. Snyder, Felix H. Spitzer, Harry E. Squire, Kaj Theill and H. C. Vensano, San Francisco.

Stephenson B. Barnes, Rufus McC. Beanfield, Oliver G. Bowen, Ralph A. DeLine, Clarence J. Derrick, C. Dauel, Murray Erick, Preston M. Jones, David H. Merrill, D. L. Narver, Llewellyn A. Parker, Donald F. Shugart, W. E. Wilson, H. C. Whittlesey, Edwin L. Bruner, Paul Jeffers, Blaine Noice and J. G. Middleton of Los Angeles.

The section of the California State law under which the above permits are issued, reads as follows:

"No person shall use the title 'structural engineer' unless he is a registered civil engineer in this state and furthermore, unless he is found qualified as such structural engineer, according to the rules and regulations established therefor by the board of registration for civil engineers. Anyone who violates the provisions of this section is guilty of a misdemeanor."

SACRAMENTO SCHOOL BUILDINGS

Architects for three new school buildings in Sacramento have been selected. Charles F. Dean will prepare the plans for the junior high school in East Sacramento, Harry J. Devine will design the Homeland-Curtis Park school, and William E. Coffman was named architect of the Sacramento Boulevard and Tenth Avenue school.

LET'S RIDE OUT OF THE VALLEY

EDITOR'S NOTE—*Charles R. Hook, President of the American Rolling Mill Company, recently delivered a message of optimism to the automobile industry, over several of the Eastern broadcasting stations.. If we could have a similar message for the building industry it might help a lot.*

WITH the turn of the year we are all hopeful of better business, and many eyes are focused on the automobile industry as the "bell-weather" to lead business back into the channels of prosperous times.

The automobile is not a luxury—it is a necessity. It has made it possible for us to live in more congenial surroundings, away from crowded districts. It has given breadth to life, and expanded the horizon for individuals and families alike.

This month will see the great automobile shows teeming with crowds to view the industry's new models, tempting in new line and color. Never in the history of the automotive industry has there been so much value offered at so little cost. Never have automotive geniuses applied themselves to the creation of physical comfort and perfected mechanism with greater success.

The automobile, with its flowing robes of lacquered beauty, beckons the world to a returning prosperity. The great automobile industry consumes 18% of all the steel ingot production in the United States; 40% of all the sheet steel; 80% of all the gasoline; 84% of all the rubber; 73% of all the plate glass; 26% of all the nickel; 31% of all the lead; 58% of all the upholstery materials; 17% of all the hardwood lumber; 37% of all the aluminum; 15% of all the copper; 23% of all the tin, and 15% of all the cotton.

If we convert these figures into man hours of labor, we quickly get a realization of the tremendous influence of automobile sales on the prosperity of the Nation.

Think of the tonnage that will move over our railroads from the supplying industries just mentioned to the automobile factories and parts makers, and think of the purchasing power of our great transportation lines thus brought into action, to start the employment of labor in the great economic family dependent upon the railroad dollar.

It is natural for mankind to resist the inroads of depression with general curtailment of buying. However, we generally go too far in this respect during trying times like the present, and our caution becomes the boomerang that stops the purchase of our own goods and services.

The best investment any man can make, who can do it, is to buy that new automobile. Remember, when you buy your new automobile, you start a tremendous cycle of man hours of labor in many of the basic industries of America.

Let's face the economic situation with a new faith, that if every one who needs and can buy a new automobile, a new radio, a new refrigerator, or a new anything, and will do so, the increased prosperity from such a concerted movement will more than pay each one of us individually for that purchase and it will place us well on the road to business recovery.

So, let's use the marvelous, modern automobile to ride out of the valley of depression on to the broad highway of better times.

SMALL HOUSE SERVICE BUREAU

Editor THE ARCHITECT AND ENGINEER:

Last month you published our letter addressed to the American Institute of Architects and other architectural organizations, anent the Architects' Small House Service Bureau. Herewith is a copy of our second letter and we shall welcome your comments:

As a result of our letter of November 7th, we have received great encouragement from many architects and organizations. A committee is now forming of delegates from the overwhelming number of organizations in and around New York City that are in favor of severing the tie between the American Institute of Architects and the Architects Small House Service Bureau.

President Hoover's Conference on Home Building and Home Ownership held in Washington December 2nd to 5th would seem to offer a fine opportunity to further the splendid work of architects in the residential field. We hope this will be the case despite the fact the president of the Architects Small House Service Bureau was appointed the presidential advisor and is chairman of the committee on design. Seven of the twenty-five members of the committee are bureau officials. We feel that the bureau has given itself a top-heavy representation considering that those opposed to the bureau are apparently not represented at all. We sincerely hope the conference will result in something better than more stock plan and mass production propaganda. Some good may come from the financial division if the proposed real estate bank functions to provide mortgage money on a par with that provided by those companies that embrace design, finance and construction into one contract.

The bureau sells its plans to loan companies. The architect is completely eliminated. This type of firm is not confined solely to the residential field and the profession may sometime be forced to take issue in this matter in self-protection. The aforesaid sales of bureau plans would tend to prove extremely embarrassing unless either this practice or the endorsement be stopped.

Leading architects publicly sponsor and endorse bureau plans. Consequently the plans are open to the public scrutiny. Procure the December issue of one of Woolworth's five and ten cent store magazines, "Love", "Home", "Movie" and "Detective", you will find a three-page article illustrating the first of a new series of four designs by the Architects Small House Service Bureau. Consider the stairway to the second floor. It starts from the breakfast nook on the first floor plan; on the second floor plan it apparently descends to the sleeping porch; the article says it starts from the back hall. The chimney back of the refrigerator evidently stops at the ceiling for it does not appear on the second floor plan at the head of the stairs to block the passage to the bedroom. Furthermore we count seven rooms. The A. I. A. restricted the bureau to six rooms. The article asks for criticisms, so we have complied.

The North Central Division of the bureau writes us as follows: "Out here, the so-called general contractor is our arch enemy." Such an attitude is not what one might call a tactful way of securing the friendship that may be direly needed sometime. Such statements, mistakes, unwise sales and disloyal propaganda, of course, can be apologized for by the bureau but as long as the endorsement holds, the entire profession must be humiliated, too.

We feel that either the Architects Small House Service Bureau should voluntarily resign from the endorsement and stand on its own merits as the architects must do, or the Institute should release itself and be free to further the immediate interests of the architectural profession, without a questionable consistency of purpose.

The architect of today is being hit on all sides. Large construction companies offer architectural service as a mere adjunct to their businesses, the Federal Government is providing its own architectural services and the Architects Small House Service Bureau is widely educating the public to low fees and cheap stock plans. Let us rid ourselves of this disunity in our own ranks and unite in our common interests for self-preservation, and strive together for public recognition of the real value of the architect's services. We can then secure legislative protection and with building permits and mortgage loans made only on registered architects' plans the public will be better served and the architect can maintain his place as the logical head of every building operation.

Your opinion either for or against will be of great value in determining the issue.

Sincerely and fraternally yours,
THE ARCHITECTS LEAGUE OF NORTHERN NEW JERSEY.
C. H. Tabor, Jr., President.

TACOMA SOCIETY

Tacoma Society of Architects held a well-attended meeting in the Rhodes Tea Room, Tacoma, December 21.

Cooperation with other organizations for improvement of the downtown district, particularly of store fronts and upper portions of older buildings now vacant, was the order of business. Tendency of downtown property owners to employ Seattle architects in recent work was also discussed.

After the meeting the members were taken through the new telephone building by Mr. Williams and Ernest Mock of Tacoma, the latter being associated with Bebb & Gould, architects for the building.

The ARCHITECT'S VIEWPOINT

- *Architectural Aberrations are Not Creations*
- *Old Buildings Need to be Modernized*
- *Standardized Metal Houses Not Likely to Become Popular*

CONTRIBUTING EDITORS
CLARENCE R. WARD . . . *San Francisco*
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NNATELY every architect desires to create something. In this era the urge is to make it new or original. In such a frame of mind he is likely to forget the fact that the major portion of his training is founded upon tradition and in his effort to produce something to sell, he may destroy something of aesthetic as well as of intrinsic value even though it be only an idea. Architecture, being one of the most potent of the agencies engaged in the solution of modern housing problems, is at the same time largely responsible for the creation of the very conditions it is trying to solve. Therefore, the good architect should analyze his ambitions to the end that he shall neither destroy that which is valuable nor create something which is not. Many architectural aberrations called "modern" would not be produced if proper studies of existing objects were made. The destruction of such objects and their replacement with more or less permanent things may be of economic importance.

The rapid progress in methods of production and use of structural materials is not only designed to meet the fast changing requirements and conditions of life, but also fosters a desire for them.

* * *

THE ideal set-up for the architect who would produce something new is, of course, a vacant plot of ground, a complacent investor and unlimited funds. The two latter are at this time virtually obsolete. To produce the desirable vacant lot it may be necessary to destroy something of value. The past decade has been one of extravagance and unless all signs fail, the next one will be one of forced economy.

Therefore, it behooves us to look over what we already have before destroying it. There are thousands of buildings of all types throughout the land which are structurally sound and can remain so indefinitely. Many of these could be added to and improved. In San Francisco alone, hundreds of buildings were built with walls and structural members designed to carry more stories. The ordinances, since revised, require excessive unit-stresses and loadings which now redound to the existing buildings' advantage. We occasionally see illustrations of improved structures and the result seems to be satisfactory, both architecturally and economically. Perhaps in all this there may be a constructive thought to correct a destructive impulse.

* * *

THERE are very few architects who have not, during the past two years, attempted to carry forward a constructive campaign only to find themselves confronted by conditions which nullified every effort.

The tremendous shrinkage in the values of real estate, as well as of securities, more than offset the cost of construction which is lower than in many years. This condition suggests the thought as above expressed.

The proposed construction program of the Federal government, embracing as it does the creation of highways, tunnels, bridges and buildings of all descriptions which would be of permanent value, and at the same time revive the industry, is worthy of serious consideration.

* * *

HOW far our ideas are to carry us is difficult to predict but the methods suggested by some who are supposed to speak authoritatively for the economic solution of housing problems, as well as for the creation of a demand for labor, should not be taken too seriously. For instance, it is proposed to manufacture standardized small houses, ship them knocked down and thus economically erect them. Just how this mass production is to create an increased demand for labor in an already over mechanized country is difficult to understand.

From the American architect's viewpoint it is difficult to imagine a standardized town. His efforts naturally tend towards the creation of the home which, no matter how humble, is still the bulwark of our nation. It is suggested that these so-called homes be constructed almost entirely of metal. Let us visualize a large portion of a town composed of standardized synthetic garages for the housing of more or less human robots. Plants will not thrive against metal. Well, we may provide angle iron trellises with wire vines carrying stamped metal blossoms dipped, not hand painted, the whole charmingly designed by a mechanical engineer. The "style" of architecture, if any, might be appropriately termed "Late Americanic". But this is not progress.

* * *

IT might occur to some thinking persons that many architects are too prone to follow the trend of their times and endeavor to please an extravagantly minded clientele to the extent of pandering to its desires. The sort of "I don't know much about art, but I know what I *like*" type of client needs guidance and not the satisfaction which at best can be only temporary.

Architects, if they will, can be the pilots who will bring the present fleet of somewhat storm tossed gaudy galleons safely to anchor in the haven of good taste until the typhoon of so-called modernism shall have spent itself. Coincidently with the decline and fall of Rome, ocurred the decadence of all of the arts. Then followed the dark ages to be superseded by other and even more extravagant periods. All history shows that merely doing something different does not necessarily mean that we are doing something good or permanent. Retrospection may well result in introspection.

Perhaps our present depressive period may bring the thought that we progressives will do well to watch our step, remembering that steps lead up as well as down, forward as well as backward. Axiomatically, modernism cannot remain modern and today's indigestible feast may well mean tomorrow's famine, if not today's.

It may be thought that the writer is hypercritical of modernism in architecture, when he is only making an appeal for restraint and attempting to offer a constructive idea for economy.

San Francisco CLARENCE R. WARD, A.I.A.

TAN CEMENT OFFERS NEW OPPORTUNITIES FOR COLOR

A TAN cement that offers exceptional opportunities to architects who are using color in their buildings, is announced by the Pacific Portland Cement Company, whose Golden Gate brand of cement is known throughout the Coast. During its entire 108-year history Portland cement has, up to this time, resisted all attempts to change its basic color from dull gray. Tan cement marks the first real improvement in the color of Portland cement in over a century. It offers exceptional possibilities for its use in present-day architecture.

"Tan cement is not an accidental discovery," according to J. A. McCarthy, Vice-President and General Manager of the Pacific Portland Cement Company. "On the contrary it is the result of many years of experimental work in our own laboratories and by our entire technical staff."

Under this new process, for which patent rights have been asked, a true Portland cement is now produced for the first time in a warm, pleasing color. The tan, which is a permanent part of the cement, is not only a desirable color in itself, but it offers great possibilities as a background for other colors when mixed with minimum amounts of pigment.

The new product is a true Portland cement guaranteed to pass the standard specifications of the American Society for Testing Materials.

The demand for a pleasing color in cement has existed for years, particularly on the Pacific Coast where color plays such an important part in landscape and architecture. Heretofore, in order to meet the demand for color, it has been necessary to import high-priced white cements from the East or else face the difficulties of changing the color of ordinary gray.

Because of its moderate cost, the new product, which is called "Golden Gate Tan Cement", opens the door for the first time to the practical use of color in mass and monolithic concrete. Its discovery should also prove beneficial to the cast stone industry.

This new tan cement seems particularly well adapted for stucco, not only because of its color, but also for its apparent qualities of plasticity and workability.

In addition to being produced in standard quality, the new tan color is available in a plastic waterproof cement, a fact which greatly broadens its field of usefulness. That it contains waterproof qualities to an unusually high degree is attested by the following report from the Hanks Laboratory:

Laboratory Certificate

ABBOT A. HANKS, INC.

Dec. 29, 1931

FINAL REPORT
Lab. No. 96003
Sample—Tan Plastic Cement
Recd—Oct. 26, 1931
Marked—Sample of Tan Plastic Cement received from Redwood City by parcel post 10, 26, 31 your P. O. 40789.

TEST RESULTS

Permeability Test

Two discs were made 6 inches in diameter and one inch thick using Tan Plastic Cement and Standard Ottawa Sand in a 1 to 3 mix by weight. These discs were cured under normal conditions for 28 days, then placed under 50 lb. water pressure in the permeability machine for 48 hours. There was no leakage and the gain in weight was nil.

Respectfully submitted,
ABBOT A. HANKS, INC.

The announcement of this revolutionary improvement in an old staple product is particularly welcome at this time, when every innovation serves as a much needed stimulus to the building industry.

It is particularly noteworthy, as pointed out by Robert B. Henderson, President of the company, that tan cement should have been developed on the Pacific Coast, where color has played such an important part in a style of architecture that has received nation wide interest and admiration.

WINS LIGHTHOUSE COMPETITION

J. L. Gleave of England has been awarded first prize in the final stage of the Columbus Memorial Lighthouse Competition, the largest architectural competition ever held. This memorial will be constructed at Santo Domingo, capital of the Dominion Republic, and will mark the location of the first permanent European settlement in the New World, where Columbus lived, and where his sons held sway as first governors for Spain in this hemisphere.

SIDE ELEVATION, MODEL OF WINNING DESIGN FOR COLUMBIA LIGHTHOUSE
Joseph Lea Gleave, Architect

Announcement of the award was made by the Chairman of the International Jury of Award at Rio de Janeiro, where the designs were examined and judged. Second prize, $7,500, was awarded to Donald Nelson and Edgar Lynch of the United States; third prize, $5,000, to Joaquin Vaquero Palacois and Luis Moya Blanco of Spain; and fourth prize, $2,500, to Theo. Lescher, associated with Paul Andrieu, Georges Defontaine and Maurice Gauthier of France.

The other competitors in the second stage each received an award of $1,000, and were as follows: Louis Berthin, George Doyon, and George Nesteroff; Josef Wentzler; Corbett, Harrison, and MacMurray (Robert P. Rodgers, Alfred E. Poor, W. K. Oltar-Jevsky); Pippo Medori; Douglas D. Ellington; and Will Rice Amon.

The Jury of Award consisted of Horacio Acosta y Lara of Uruguay, Chairman and representative of Latin American on the Jury; Eliel Saarinen of Finland, representing Europe, and Frank Lloyd Wright of the United States, representing North America. Hon. Getulio Vargas, President of Brazil, the Cardinal of Brazil, members of the Cabinet and of the diplomatic corps accredited to the Government at Rio were present at the announcement of the awards, while the Government of the Dominican Republic was represented by a special delegation headed by the Hon. Tulio M. Cestero, who has long been a moving spirit in the project.

In the first stage of the competition 455 architects from practically all nations of the world took part. Ten designs were awarded prizes of equal weight in the first stage, the judgment being held at Madrid in 1929, where an exhibition of all the projects was held following announcement of the awards. The authors of these ten designs were eligible to recompete in the second stage. J. L. Gleave of England, awarded the final prize, will be the architect for the Memorial.

PRACTICING WITHOUT LICENSE

According to a report issued by the California State Board of Architectural Examiners, Lawrence Flagg Hyde was found guilty of practicing architecture without a certificate, in violation of the state act to regulate the practice of architecture. Charges were filed by A. L. Bolton, representing the state. The defendant's office was in Oakland.

PARAFFINE COMPANIES, Inc,. BUILD LINOLEUM PLANT

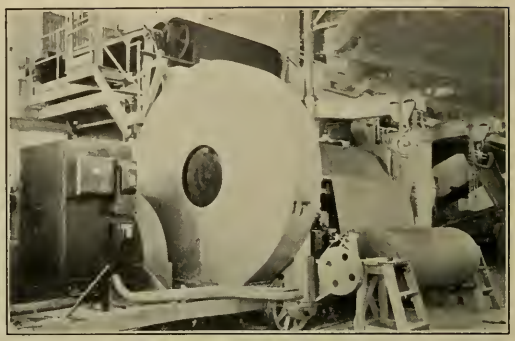
Pabco Linoleum Label

THE only linoleum plant west of the Atlantic seaboard has commenced operations in the Bay region. According to its sponsors the plant is the finest, most modern and most efficient in the country.

Manufactured by the world-known distributors of Pabco products, Pabco linoleum will be an addition to similar products and services which have been a part of the company existence for many years. On the Pacific Coast, particularly, Pabco has assisted materially in the work of the architectural and building professions in serving the needs of industry and business.

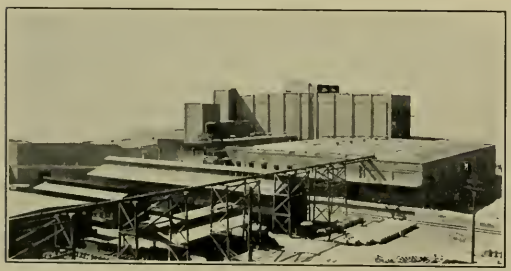
"Apart from the merchandising end of the new product," said an official of the company, "Pabco linoleum should meet with the instantaneous approval of architects, contractors and users. This is particularly true because of the widespread demand for the custom-built floor which the Paraffine Companies, Inc., is most interested in developing.

"Pabco's initial production schedule includes plain, jaspe and battleship linoleums, the colors and gauges of which are the result of a personal canvass of the architectural profession.



CALENDER DESIGNED FOR ROLLING AND FINISHING LINOLEUM

"The new plant, located on the shores of San Francisco Bay, is in direct connection with rail and water. Warehouse stocks and distributing channels have been located at strategic points. And for the assistance of architect and user of special designing service for custom-bilt floors has been established with trained representatives available for the recommendation of proper linoleum gauges, colors and designs and methods of laying for all types of floor conditions."



PABCO LINOLEUM PLANT AT EMERYVILLE, CALIFORNIA

NEW BUILDING MATERIAL

"Marble-glass" is the trade name given a new building material, the manufacture of which will be undertaken by the patentees, MacGruer & Company, 266 Tehama Street, San Francisco. Architects who have investigated the material are of the opinion that it has great possibilities, particularly when combined with cromium and aluminum metals and used for the exterior treatment of modern buildings, store fronts, etc.

Marble-glass as a substitute for genuine or artificial marble, is unlike anything heretofore produced along this line. It is the outcome of a patented formula of synthetic or transparent paint developed on the back face of a slab of glass.

[Concluded on Page 90]

WITH *the* ARCHITECTS

AIRCRAFT FACTORIES

The Oakland Port Commission is having its Engineering Department prepare plans for the development of 100 acres of municipal waterfront adjoining the Oakland airport, as sites for aircraft factories and accessory plants. A new street will be laid out paralleling the flying field and extending to Bay Farm Island Bridge. The factory buildings will be constructed by the Port Commission and leased to various aircraft enterprises.

OAKLAND ARCHITECT BUSY

New work in the office of Guy L. Brown, American Bank Building, Oakland, includes sketches for two large residences, one in the vicinity of Oakland to cost $60,000, and the other in Mendocino County to cost $50,000. The latter will be of the ranch house type. Mr. Brown has recently let a contract for an open air market on Hopkins Street, east of 36th Avenue, Oakland, for Lloyd R. Brown.

STOCKTON APARTMENT BUILDING

Plans have been completed and bids taken for a five story and basement, steel frame and brick apartment building, Stockton, for Senator Frank S. Boggs. The structure will replace buildings destroyed by fire a year ago. The plans are by Couchot & Rosenwald, 525 Market Street, San Francisco, and the estimated cost is $150,000.

DESIGNING SMALL HOMES

B. N. Branch, architectural designer, Bremerton, has six residential projects to keep him busy the early part of 1932. Three of the houses are to be built along the shores of Dye's Inlet. Little country estates have strong appeal for prospective owners of modest homes, says Mr. Branch.

STATE LIBRARY BUILDING

Bids are to be opened by the State Department of Engineering, Sacramento, February 2nd, for the erection of a one-story and basement, reinforced concrete library building, estimated to cost $150,000, at the State Teachers College, Fresno. Swartz & Ryland, Fresno, are the architects.

DESIGN HUNTING LODGE

William L. Bartholet, architectural designer, has invaded Canada with his talent. His work is represented by a commodious hunting lodge of log construction in the Kamloops country. The sylvan retreat is 46x28 with exterior log construction and vertical poles on the interior. The roof is of split cedar shakes insulated with moss. The lodge is the property of F. M. Fairbanks of Seattle.

LONG BEACH POST OFFICE

Lindgren & Swinerton, Inc., San Francisco and Los Angeles, submitted the low bid for the construction of a Class A post office building at Long Beach for $392,000. This firm has also received a contract to build a two story, reinforced concrete garage at 24th and Filbert Streets, Oakland, for the Union Ice Company.

APARTMENT HOUSE ALTERATIONS

A. H. Knoll, Hearst Building, San Francisco, has completed plans for alterations to a three story frame apartment building on California Street, near Hyde, San Francisco, for Dr. Morton. Mr. Knoll has also drawn plans for a one story and basement brick building at Chico, estimated to cost $12,000.

VALLEJO JUNIOR HIGH SCHOOL

Plans are being completed by Frederick H. Reimers, San Francisco, and Davis-Pearce Company, Stockton, for a $230,000 junior high school group at Vallejo. The group will consist of thirty classrooms, auditorium, gymnasium, shops and cafeteria. The Spanish style of architecture will prevail.

SAN FRANCISCO STORE BUILDING

Plans have been prepared in the office of S. Heiman, architect, 605 Market Street, San Francisco, for a one story reinforced concrete and frame store building, to be built at Ocean Avenue and Fairfield Way, San Francisco, at a cost of $15,000. T. E. Foster is the owner and Westwood Electric Radio Company the lessees.

FRANK HOYT FOWLER

Frank Hoyt Fowler, architect and engineer, Seattle, died suddenly December 9, at his home. He was 49 years of age. His early education was obtained in Bellingham, Washington, where he graduated from Fairhaven High School. He was granted a degree in engineering by the University of Washington, and for some years was employed in the engineering department of the Chicago, Milwaukee, St. Paul and Pacific Railway. Later he took up architecture, designing some notable commercial buildings. Mr. Fowler was a member of the American Society of Civil Engineers.

CELEBATES ANNIVERSARY

Ellis Fuller Lawrence, architect, of Portland, Oregon, and Dean of the School of Architecture and Allied Arts at the University of Oregon, celebrated his 52d birthday on November 13. A native of Malden, Mass., he obtained a bachelor's degree in architecture from the Massachusetts Institute of Technology in 1901, and earned a master's degree a year later. His apprentice work was taken under Stephen Codman in Boston. He journeyed to Portland in 1906 on his way to San Francisco to open a branch office for Mr. Codman.

WISHES MANUFACTURERS' CATALOGS

L. F. Mulqueen, formerly located in Los Angeles as a practicing architectural engineer, has accepted an appointment with the Federal Government at Washington, D. C., and desires manufacturers' catalogs in connection with the design of office, warehouse, barracks and industrial types of buildings. Mr. Mulqueen states that most of this work is scheduled for the Pacific Coast. The trade should address Mr. Mulqueen at 1300 E. Street, N. W. Washington, D. C.

HOTEL ADDITION

Messrs. Kent & Haas, 525 Market Street, San Francisco, have completed drawings for a five story and basement Class C reinforced concrete addition to a hotel at Merced, California, which was damaged by fire last fall. Approximately $90,000 will be expended on the improvements.

REELECTED PRESIDENT

George W. Kelham, architect of San Francisco, has been re-elected president of the Industrial Association of San Francisco.

PRAISE FOR MILLER & PFLUEGER

Messrs. Miller and Pflueger, architects, of San Francisco, have received many congratulatory messages for their design of the beautiful new Paramount Theater in Oakland. The following editorial in the San Francisco Daily News, is typical:

"The new Paramount is the most modern and beautiful theater in the United States and one of the largest theaters in the world. It is paramount in splendor, in size, in luxury, in convenience, in sheer loveliness. It is something new in the modern world. A new idea, a new conception of beauty in its adaptation for common use is behind it—that is, new in our time, and in our nation.

"As a matter of fact, this splendid use of color, this daring combination of real beauty and utility in a common meeting place of the people is not new. It is something very old. The artists and the architects of the ancient world, of the medieval world understood it, and trusted the people to understand it. And the people DID understand and respond to it.

"But in modern times courage and imagination have been somewhat lacking. Beauty too often has been sacrificed to utility. Or a counterfeit brand of beauty has been offered to the people —a thing of tortured lines, gilt gingerbread decoration, gewgaws.

"Thanks to the intelligent faith of the men behind the new Paramount Theater and to the fine imagination and genius of T. L. Pflueger, the architect who designed it, the people of Greater Oakland have been given a theater supreme in both beauty and utility.

"The beauty is simple and real—a matter of form, line and color. And the people of Oakland will understand and appreciate it, as the people of old Greece understood the beauty created by their builders, as the people of renaissance Italy understood the beauty created by their painters, as the people of modern Mexico understand the beauty in the frescoes of Diego Rivera."

The theater will be illustrated in detail in THE ARCHITECT AND ENGINEER shortly.

BOHEMIAN CLUB BUILDING

Plans are being completed in the office of Lewis P. Hobart for the Bohemian Club's new building in San Francisco. The engineering work is being done by Will P. Day of the firm of Weeks & Day. The building is to cost $600,000.

COMPETITION FOR FELLOWSHIP

The seventh annual competition for the James Harrison Steedman Memorial Fellowship in Architecture, worth $1,500 and open to all graduates of recognized schools of architecture in the United States, has been announced by the governing committee, composed of J. Lawrence Mauran, chairman, Louis LaBeaume, and Gabriel Ferrand, professor of design in the Washington University School of Architecture. The fellowship gives the recipient a year of study in Europe. According to the conditions of the contest, all candidates must be American citizens of good moral character and must have had at least a year of practical work in the office of an architect practicing in St. Louis. Application blanks must be procured from the School of Architecture and returned not later than January 21, 1932. The actual competition will be conducted by the faculty of the School of Architecture next spring.

After completion of the year of study abroad, the Steedman fellow is required to present a thesis as part of the work toward the degree of Master of Architecture.

This fellowship was founded in memory of James Harrison Steedman, a graduate of Washington University of 1889, who became a first lieutenant in the U. S. Naval Reserves and assistant engineer officer of the U. S. S. Oklahoma in 1917 and 1918 and who, suffering from a malady curable only by rest, refused to quit his post and died in the service.

ARCHITECTS TO COLLECT FEDERAL FEES

California architects will collect more than $120,000 in fees for preparing plans and specifications for public buildings in this state.

Plans for the Oakland postoffice and some others were prepared in the office of the Supervising Architect at Washington, but in nine other cities local architects have been employed.

As estimated by the Supervising Architect of the Treasury Department, California architects' fees will be: Starks and Flanders, Sacramento, $46,000; Bliss & Fairweather, Stockton, $20,800; George Lindsay, Glendale, $14,400; John J. Donovan, Marysville, $5520; Allison & Allison, Merced, $7200; Fred H. Meyer, Oroville, $5856; Birge M. Clark, Palo Alto, $6960; Reed & Corbett, Napa, $5760; Dean & Dean, Vallejo, $7368.

ARCHITECTS MOVE

George C. Burnett has moved to 933¾ Elden Ave., Los Angeles.

Walter C. Folland has moved to 460 North Catalina Ave., Los Angeles.

Nathan Lindell Coleman's new address is 1437a North Orange Drive, Hollywood.

Arthur J. Williams has moved to 1008 West Adams Street, Los Angeles.

E. Hardy Merrill has moved to 8327½ Wilshire Blvd., Beverly Hills.

Sydney Clifton's new address is Box 160, Arcade Annex, Los Angeles.

Orville L. Clarke has moved to 816 West 5th Street, Los Angeles.

Vladimir O. Oglou is at 374 17th Street, Oakland.

C. O. Clausen's address is 746 46th Ave., San Francisco.

Clay N. Burrell has moved to 469 Perry Street, Oakland.

Albert H. Larsen's address is 595 Bright Street, San Francisco.

Frank D. Hudson is at 315 So. Broadway, Los Angeles.

Donald McCormick has moved to the Studio Bldg., Tulsa, Oklahoma.

Roy Seldon Price is at 9000 Sunset Blvd., West Hollywood.

E. Field is at 1001 Underhill Road, Oakland.

Clarence N. Aldrich is at 1834 Dawson Ave., Long Beach.

Arthur L. Acker's address is 1345 So. Sycamore Ave., Los Angeles.

Don Uhl is at 520 No. Detroit Street, Los Angeles.

ARCHITECT SUES

John S. Hudson, architect, of Seattle, has entered suit against Reese B. Brown for $220,000, which Mr. Hudson avers is the difference due him upon the sale of the Rhododendron and Northcliffe apartments, which were transferred to Mr. Reese who negotiated the sale.

That Mr. Brown told Mr. Hudson he could get but $552,504, is the charge, whereas the apartments sold for $821,405.

To force the sale, the plaintiff charges, Mr. Brown conspired to get the architect's creditors to press him for payment.—*Washington State Architect.*

PERSONALS

Milton W. Morrison, architect, formerly with Geo. W. Kelham, announces that he has opened offices for the practice of architecture at 601 Forty-second Avenue, San Francisco. Mr. Morrison's services will also be available as an advisor and consultant.

Leo J. Sharps has recently opened an office at 1412 Burlingame Avenue, Burlingame, California, for the practice of architecture. Mr. Sharps will be pleased to receive manufacturers' literature and samples of building material.

Johnson and Wethered, whose former address was 345 Taylor Street, San Francisco, are now located in the Sir Francis Drake Hotel, San Francisco.

James R. Friend, architect, 2933 East Seventh Street, Long Beach, would like to have manufacturers' literature and building material samples. Mr. Friend is getting his new office into shape and expects to be busy on several important commissions soon.

D. V. Nicholson has been appointed administrative assistant on the $72,000,000 San Francisco-Oakland bridge project by State Engineer Charles H. Purcell.

C. J. Ryland, member of the architectural firm of Swartz and Ryland, Fresno and Monterey, has been appointed by Governor Rolph as a member of the California State Board of Architectural Examiners for the Northern District. He succeeds John J. Donovan of Oakland, whose term has expired.

L. Solberg, architect, of Wenatchee, Washington, attended the Northwest regional council on school building programs which was held during mid-November in Portland. The session was conducted under the auspices of the division of education, United States Department of the Interior.

Lionel H. Pries, formerly of San Francisco, now a member of the architectural firm of Bain and Pries, Seattle, is a director of the Seattle Art Institute.

Hancock and Lockman of Seattle have moved to Room 432, Republic Building, where they are occupying quarters jointly with J. Charles Stanley, architect.

Harry Hayden Whiteley, architect, has moved from 331½ North Beverly Drive, Beverly Hills, to 124 South Swall Drive, Beverly Hills. Mr. Whiteley's office hours will be from 9 a. m. to 4 p. m.

Sidney A. Colton, architect, announces the opening of an office for the practice of his profession at 544 Market Street, San Francisco.

Walter C. Folland, architect, on an attractive holiday card, announces the removal of his offices to the southwest corner of Colorado Street and Fair Oaks Avenue, Pasadena, California.

Rudolph Falkenrath, of Los Angeles, who has been ill in a hospital for a number of weeks, requests that until he is able to resume business all communications be addressed to Mrs. Falkenrath at his residence, 2279 W. Twentieth Street, Los Angeles. His office in the Chamber of Commerce Building has been closed and he plans to conduct his business from his residence for the time being.

PORTLAND BUILDING NOTES

Knighton & Howells are announced as architects for the Federal postoffice building at Oregon City.

A. E. Doyle and associates are architects in remodeling the two-story office building at 105 6th Street, estimated at $40,000.

John H. Grant, Oregon Building, is architect for a two-story super-service station at Denver Avenue and Argyle Street, estimated to cost $20,000.

The projected tourist hotel at Spirit Lake is said to be closer to realization, according to E. E. Nelson, of the Northern Pacific Railway in Seattle, with the leasing of the desired land.

Richard Sundeleaf is architect for the Wilson-Chambers, Inc., mortuary building to be erected at the corner of Commercial and Killingsworth. The brick structure will cost $30,000.

ARCHITECTS LICENSED

Those who passed the requirements and have been granted a license to practice architecture in the State of Washington are: LaMonte J. Shorrett, Byron F. Jacobson, Ivan M. Palmau, George W. Groves, Alfred F. Mowberg, Nicholas A. Kabushko, Albert H. Funk, Donald Joseph Stewart, Hugh Richardson, Harry Loners and Don Merrill Clippinger.

LIBRARY ADDITION, VALLEJO

A. C. Lutgens, architect, of Vallejo, has completed plans for an addition to the public library, the work to be advertised for bids early in March.

SOCIETY and CLUB MEETINGS

SOUTHERN CALIFORNIA CHAPTER

Annual meeting of Southern California Chapter, A. I. A., was held December 15th. Gordon B. Kaufmann was elected president; Sumner M. Spaulding, vice-president; Palmer Sabin, secretary; Paul J. Duncan, treasurer; Roland E. Coate, director for the three-year term; and Carleton M. Winslow, director for one year to fill the unexpired term of Mr. Kaufmann.

Delegates elected to this year's Institute convention are: David J. Witmer, Robert H. Orr, Ralph C. Flewelling, Charles H. Cheney, A. M. Edelman and William Richards; alternate delegates: Sumner M. Spaulding, Reginald D. Johnson, John C. Austin, W. L. Risley, Pierpont Davis and Carleton M. Winslow.

Guests of the Chapter included seven members of the graduating class of the School of Architecture, University of Southern California, who were introduced by C. Raimond Johnson of the University.

The Chapter adopted a "Code of Ethics" for the signature of new associate members. A copy of the document will be sent to all Chapter members.

Frederick H. Meyer of San Francisco, regional director, attended the meeting and made a report on several matters that came before the semi-annual meeting of the board of directors of the Institute held in Louisville, Ky., recently.

Edwin Bergstrom, who attended the Louisville meeting, spoke of the board's work in forwarding the unification of architects' organizations.

It was announced that William H. Kraemer and Samuel E. Lunden had been elected members of the Institute.

The following members and guests were present: Wm. McCay, J. J. Miller, George Hunt, Palmer Sabin, Roy C. Mitchell, John Rex, Ed. Wilensky, C. Raimond Johnson, Wm. H. Kraemer, L. A. Parker, Scott Gerity, Samuel E. Lunden, Reginald D. Johnson, Ralph Flewelling, W. L. Risley, F. V. Bazter, H. Roy Kelley, Frederick H. Meyer, D. C. Allison, Chas. M. Hutchison, Robt. H. Orr, Wm. H. Harrison, A. F. Rosenheim, John C. Austin, V. Floyd Rible, P. R. Hunter, Harry Widman, Henry F. Withey, S. B. Marston, R. Germain Hubby, Edgar W. Maybury, R. H. Ainsworth, C. H. Cheney, A. C. Metcalf, M. L. Barker, W. W. Steckney, Fitch H. Haskell, Paul J. Duncan, Sumner Hunt, Louis J. Gill, Gordon B. Kaufmann, A. M. Edelman, H. C. Chambers, Myron Hunt, Edwin Bergstrom, Pierpont Davis, David J. Witmer, Jonathan Ring, E. S. Nibecker, Jr., Eugene Weston, Jr., Loyall F. Watson, H. G. Spielman, Austin Whittelsey, Carleton M. Winslow and G. Stanley Wilson.

OREGON CHAPTER, A. I. A.

The December 15 meeting took the form of a dinner at the University Club. Those present were Messrs. Doty, Jacobberger, Aandahl, Parker, Church, Newbeury, Tucker, Bean, Herzog and Crowell.

Report of the executive committee recommending that the Oregon Chapter associate itself with the Oregon State Federation of Professional Societies was read by Mr. Aandahl. Its acceptance was regularly moved, seconded and passed.

Mr. Bean reported that he was making satisfactory progress in composing a new housing code and hoped to have it ready to submit to the City Council in four to six weeks. In the meantime he specially requests that Chapter members call on him as he would like to discuss the proposed code and get as many reactions and comments as possible before putting it in final shape to submit to the Council.

F. S. Allyn submitted a special committee report, recommending a standard for indications of materials on drawings. It was voted to submit the report to the membership for recommendations and then to the Oregon Building Congress Board of Reference before final adoption.

The nominating committee for officers in 1932 reported as follows: President, Harold W. Doty; vice-president, Fred Aandahl; secretary, W. H. Crowell; treasurer, Harry A. Herzog; trustee, C. H. Wallwork. The nominations are of present officers except C. H. Wallwork for trustee, whose nomination is to fill the place of A. Glen Stanton, term expired. The holdover trustees this year are Messrs. Parker and Holford. The committee recommendations were approved.

American Institute of Architects

(Organized 1857)

Northern California Chapter

President . . . . . Henry H. Gutterson
Vice-President . . . . . Albert J. Evers
Secretary-Treasurer . . . . Jas. H. Mitchell

Directors

John J. Donovan — Harris C. Allen — Lester Hurd
Fred'k. H. Meyer — G. F. Ashley — Berge M. Clarke

Southern California Chapter, Los Angeles

President . . . . . Gordon B. Kaufmann
Vice-President . . . . . Sumner M. Spaulding
Secretary . . . . . Palmer Sabin
Treasurer . . . . . Paul J. Duncan

Directors

Carleton M. Winslow — Wm. Richards — Roland E. Coate
Eugene Weston, Jr.

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Vice-President . . . . . Harold Burket
Secretary . . . . . E. Keith Lockard
Treasurer . . . . . Leonard A. Cooke

Oregon Chapter, Portland

President . . . . . Harold W. Doty
Vice-President . . . . . Fred Aandahl
Secretary . . . . . W. H. Crowell
Treasurer . . . . . Harry A. Herzog

Trustees

C. H. Wallwork — Jamieson Parker, — William Holford

Washington State Chapter, Seattle

President . . . . . Roland E. Borhek
First Vice-President . . . . . J. Lister Holmes
Second Vice-President . . . Stanley A. Smith
Third Vice-President . . . . . F. Stanley Piper
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The following is copied from the by-laws of the Chapter:

"At any time after the December meeting and not less than five days before the annual meeting (January 19, 1932), separate lists of nominations may be submitted to the secretary of the Chapter by any five or more members of the Chapter whose signatures must be appended to such lists. Such lists of nominations must be complete for each and every office, including those in which they may not differ from the list submitted by the nominating committee."

After a few remarks by Mr. Aandahl concerning proposed hotel on Mount Hood, the meeting adjourned to the dining room where the members were increased by Mrs. Mary E. Wortman, honorary member of the Institute, Irving Smith and Wade Pipes, and by representatives of the press.

Mrs. Wortman gave an interesting account of her experiences and impressions while at the International Congress of Architects at Budapest last year, which she attended as a delegate, and also spoke entertainingly and from an architect's viewpoint of her travels through Europe, Asia Minor, Syria and old Persia.—W. H. C.

SPOKANE SOCIETY OF ARCHITECTS

The Spokane Society of Architects recently took an active interest in an exhibit of stained glass replicas from European cathedrals held under the auspices of the Spokane Art Association, through the courtesy of the Zettler studios of Newark, N. J., and circulated as a traveling exhibition by the Art Center of New York. H. C. Whitehouse, president of the Spokane Art Association, has delivered a number of interesting lectures on the art, history, and manufacture of stained glass.

City Building Inspector Mackey, and Harry Aumack, also of the City Hall, were guests of the Society November 27. Subjects for discussion at this meeting included "Property Building Ordinance for Spokane Revised." Mr. Mackey required the cooperation of the architects in suggesting change and improvements on the rough draft. Roland M. Vantyne is a member of the committee.

Mr. Aumack presented plans for new street improvements, including the Elm Street bridge.

The Society attended meetings of the Western Division of the United States Chamber of Commerce on December 4 where a movement to eliminate Federal competition in building work was endorsed.

Professor Stanley A. Smith announces a traveling exhibit of the Association of Collegiate Schools of Architecture to be held at Pullman February 23 to March 3 inclusive.

WHEN BUILDING INDUSTRY IS AT LOW EBB ENTIRE COUNTRY SUFFERS

THERE seems to be a good deal of publicity matter written by commercial leaders or inspired by them urging the people to buy goods and thus speed up the prosperity cycle.

On the other hand, financial leaders and fiduciary institutions, and bankers who have control of the peoples' funds in circulation, especially the funds of financiers who usually invest in mortgages and bonds, and who are, in a sense, also stewards of the peoples' capital, are urging us by publications, but more potently by advice and action, or inaction, not to build new properties "until the titles to the present mortgaged properties are put into permanent form."

Fiduciary mortgagors or bond houses and their agents, first appraised and fixed the value of these properties and agreed to invest their funds to the lawful limit of 50% or 60% of the value they themselves fixed and proved to the satisfaction of the State, under agreement to leave the title and management of the property in the possession of the mortgagee, or holder of the balance in value, until purchance the mortgagee failed from any cause to pay to the mortgagor his just share of the earnings in earnest, when the mortgagor might take over the whole title, management, and earnings at the 50% to 60% of the value.

To state the transaction in simple common terms, the mortgagor agreed, in effect, to buy at 50% to 60% of his own valuation and the mortgagee consented to sell at that price, through foreclosure, if certain unforeseen conditions should arise.

In due time the uncertain conditions certainly arose. The renters or occupants who were counted on to pay taxes, insurance, up-keep and the interest to the mortgagor, deserted and joined the ranks of the unemployed, "doubled up," or moved back into abandoned shelter to such an extent that the conditions of the contract matured the option of the mortgagor to take possession.

Now, by one class of leadership we are urged to buy goods, the product of labor and capital, and by another, or possibly the same class, we are admonished not to buy from the building and construction industry until the mortgagors have completed the purchase, or "stabilized the title," of a number of properties now in distress.

Indeed, there seems to be a kind of agreement, unexpressed perhaps except by concerted action, among managers of fiduciary funds throughout the entire country to hold up or blockade the most of the building industry. A reasonable implication is that the financial interests expect that by stopping building activity they may produce a scarcity of buildings, and thereby raise rents and raise the value of the present mortgaged properties and the newly "stabilized" titles.

The question arises whether paralyzing the building industry and allied interests will not greatly reduce values of rentable properties and whether the advisors and the controllers of funds are not working too far at cross purposes by urging us by all manner of means to buy goods and at the same time stopping the largest block of work, wages and salaries in the country by declaring a blockade on the building and construction industry.

The building industry in the United States in normal times creates eight billion dollars worth of usable, taxable property annually; employs more than four million workmen, not including allied industries such as furniture and equipment, and contributes 15% of the tonnage transported by the railways, not to mention trucks and boats. This largest of all industries in normal activity circulates eight billion dollars a year through every business, trade, and profession of our economic life. It is, next to agriculture, the most vital part of the economic life of the nation, and creates about 70% of our new taxable wealth, raises the American standard of living and contributes greatly to the safety, comfort, health and happiness of all citizens.

Stopping the use of capital and labor in the building industry probably produced half the countable unemployment and the most of the uneasiness and panicky actions among wage earners, produced the largest quota of vacated houses, closed the most offices, broke more mills, factories, retail establishments and banks, and reduced the railroad revenue and collectable taxes more than any other class of industry. To spend a few million dollars in Government buildings produces

Note—A speech to the Architects Club of Chicago, November 12th, 1931, by Henry K. Holsman, F. A. I. A., Architect.

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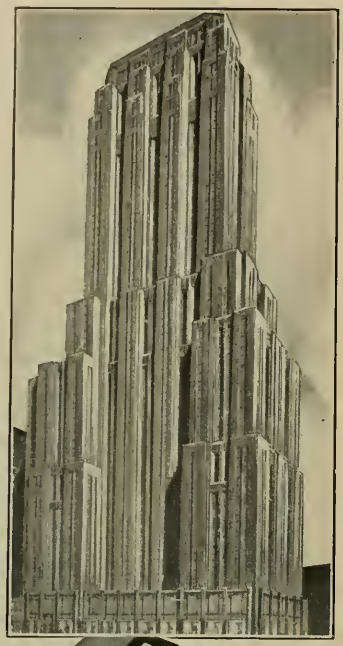

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no taxable wealth, increases taxes, and is insignificant as employment relief compared to six or eight billion dollars that may be used in private property improvements.

The Assistant Secretary of Commerce says: "The construction industry, directly or indirectly, affects the jobs of no less than one-quarter of all our wage earners. It involves one job out of every four in some way." Surely the livelihood and support of so large a proportion of our population must not be jeopardized or thoughtlessly tampered with.

It is to be presumed that a large number of the four million men in the building trades and their families and dependents in the allied trades would like to live in a house by themselves instead of "doubling up," or would like the luxury of living in a new house of their own building rather than in one formerly abandoned. They probably would like to buy a home more than a radio or a moving picture set, but since for them there is no work to do, they can not buy anything, not even the product of their own handiwork.

Would it not be better to allow a little work to be done by way of producing real property, property to be used rather than to be used up, and thus break the vicious circle now operating in the building industry, and get the workers back into the houses and offices, paying rent, taxes and interest? Let the builders of the nation build themselves better and better homes, occupying the poorer ones in the meantime. When the building become obsolete, as standards of living advance, they will rebuild them. This never ending process is the chief job of civilized man.

If the construction industry must put off buying clothes, food and shelter until the new owners of depressed properties get the titles perfected and the values up, the building mills and factories may be entirely broken down and the skill and spirit of the trades dissipated. How do the new title owners expect to raise the value of their newly acquired properties back to their former appraised amounts, a consummation greatly to be desired and doubtless hoped for, if they do not let that one-fourth of all workers, the property makers, get to work, so they can rent the "liquidating" and "distressed" properties while they are slowly raising living standards, or values, and creating more tax producing properties to take the place of those continually going out of use and value?

The evident present policy of the parties partly responsible for the present slump in property production needs careful thought before it goes too far. If a few mortgage bankers and their appraisers formerly put a few values too high, as it seems

now they may have done, a reasonable way to bring values up toward that height, rather than panicky action, would be most desirable. The number of over-valued or unlawfully issued real estate bonds and mortgages is insignificant compared to the vast amount of sound ones. To keep these mistakes in mind and stop all building construction loans on that account, might easily jeopardize all values. To let that one-fourth of all our workers proceed in their industry might quickly restore all the "distressed properties." Surely anything that tends to paralyze one-fourth of our entire productive population can do no good.

DESIRES FEDERAL RECOGNITION

Editor THE ARCHITECT AND ENGINEER:

At the direction of Mr. Louis LaBeaume, Chairman of the Committee on Public Works of the American Institute of Architects, we are sending you copies of House of Representatives Bill No. 6187, referring to the employment of architects for Federal buildings.

Mr. LaBaume hopes very much that you will support the efforts of the Institute to secure legislation which is believed to be sound in principle, and that The Architect and Engineer can find opportunity to give encouragement to this movement for bringing about Federal recognition of architects and engineers in private practice.

The effort to secure the legislation may be extended over a long period but the Institute is determined to carry it forward until success is achieved.

Sincerely yours,
E. C. KEMPER,
Executive Secretary.

Following is a copy of the H. R. Bill, introduced by Hon. Robert A. Green of Florida and which has been referred to the Committee on Public Buildings and Grounds:

To direct the Secretary of the Treasury to contract for architectural and engineering services in the designing and planning of public buildings.

Be it enacted by the Senate and House of Representatives in Congress assembled:

That the Secretary of the Treasury is hereby authorized and directed to employ by contract, and at the established rates of compensation, outside professional or technical service of competent persons, firms or corporations, for the architectural and engineering designing and planning of such Federal buildings as are now or may, in the future, be placed under the jurisdiction of his department, without reference to the Classification Act of 1923, as amended, or to Section 3709 of the Revised Statutes of the United States.

Section 2. That such employment shall be based at all times on the highest grounds of

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Estimator's Guide

Giving Cost of Building Materials, Wage Scale, Etc.

Amounts quoted are figuring prices and are made up from average quotations furnished by material houses to three leading contracting firms of San Francisco.

THIS MONTH—*Steel and Hardware prices higher; lumber, white lead and linseed oil at lower level*

All prices and wages quoted are for San Francisco and the Bay District. There may be slight fluctuation of prices in the interior and southern part of the state. Freight cartage, at least, must be added in figuring country work.

Overtime in wage scale should be credited with time and a half, Sunday and holidays double.

Bond—1½% amount of contract.

Brickwork—
Common, $31 to $36 per 1000 laid, (according to class of work).
Face, $70 to $90 per 1000 laid, (according to class of work).
Brick Steps, using pressed brick, $.90 lin. ft.
Brick Walls, using pressed brick on edge, 60c sq. ft. (Foundations extra.)
Brick Veneer on frame buildings, $.80 sq. ft.
Common, f. o. b. cars, $14.00 plus cartage.
Face, f. o. b. cars, $45.00 per 1000, carload lots.

HOLLOW TILE FIREPROOFING (f.o.b. job)

3x12x12 in.	$ 68.00 per M
4x12x12 in.	76.50 per M
6x12x12 in.	105.00 per M
8x12x12 in.	170.00 per M

HOLLOW BUILDING TILE (f.o.b. job) carload lots).

8x12x5½	$76.50
6x12x5½	59.50

Composition Floors — 18c to 30c per sq. ft. In large quantities, 18c per sq. ft. laid.
Mosaic Floors—80c per sq. ft.
Duraflex Floor—23c to 30c sq. ft.
Rubber Tile—55c per sq. ft.
Terazzo Floors—40c to 55c per sq. ft.
Terazzo Steps—$1.50 lin. ft.

Concrete Work (material at San Francisco bunkers) — Quotations below 2000 lbs. to the ton.

No. 3 rock, at bunkers	$1.65 per ton
No. 4 rock, at bunkers	1.65 per ton
Elliott top gravel, at bnkrs.	1.75 per ton
Washed gravel, at bunkrs	1.75 per ton
Elliott top gravel, at bnkrs.	1.75 per ton
City gravel, at bunkers	1.40 per ton
River sand, at bunkers	1.50 per ton
Delivered bank sand	1.10 cu yd.

Note—Above prices are subject to discount of 10c per ton on invoices paid on or before the 15th of month, following delivery.

SAND
Del Monte, $1.75 to $3.00 per ton.
Fan Shell Beach (car lots, f. o. b. Lake Majella), $2.75 to $4.00 per ton.
Cement, $2.24 per bbl. in paper sks.
Cement (f.o.b. Job, S. F.) $2.44 per bbl.
Cement (f.o.b. Job, Oak.), $2.64 per per bbl.
Rebate of 10 cents bbl. cash in 15 days.
Medusa "White" .....$ 8.50 per bbl.
Forms, Labors average 22.00 per M.
Average cost of concrete in place, exclusive of forms, 28c per cu. ft.
4-inch concrete basement floor.....13c to 14c per sq. ft.
4½ inch Concrete Basement floor .....13c to 14c per sq. ft.
2-inch rat-proofing....6½c per sq. ft.
Concrete Steps.....$1.10 per lin. ft.

Dampproofing and Waterproofing—
Two-coat work, 18c per yard.
Membrane waterproofing—4 layers of saturated felt, $5.00 per square.
Hot coating work, $1.80 per square.
Medusa Waterproofing, 15½c per bbl, San Francisco Warehouse.

Electric Wiring — $2.75 to $8.50 per outlet for conduit work (including switches).
Knob and tube average $2.25 to $5.00 per outlet, including switches.

Elevators—
Prices vary according to capacity, speed and type. Consult elevator companies. Average cost of installing an automatic elevator in four-story building, $2450; direct automatic, about $2400.

Excavation—
Sand, 40 cents; clay or shale, 90c per yard.
Teams, $10.00 per day.
Trucks, $20 to $25 per day.
Above figures are an average without water. Steam shovel work in large quantities, less; hard material, such as rock, will run considerably more.

Fire Escapes—
Ten-foot balcony, with stairs, $65.00 per balcony.

Glass (consult with manufacturers)—
Double strength window glass, 15c per square foot.
Quartz Lite, 50c per square foot.
Plate 80c per square foot.
Art, $1.00 up per square foot.
Wire (for skylights), 27c per square foot.
Obscure glass, 25c square foot.
Note—Add extra for setting.

Heating—
Average, $1.60 per sq. ft. of radiation, according to conditions.

Iron—Cost of ornamental iron, cast iron, etc., depends on designs.

Lumber (prices delivered to bldg. site)
Common, $22.00 per M (average).
Common O. P. select, average, $26.00 per M.

1 x 6 No. 3—Form Lumber	$15.00 per M
1 x 4 No. 1 flooring VG	55.00 per M
1 x 4 No. 2 flooring	46.00 per M
1 x 4 No. 3 flooring	40.00 per M
1 x 6 No. 2 flooring	50.00 per M
1¼x4 and 6 No. 2 flooring	55.00 per M

Slash grain—

1 x 4 No. 2 flooring	$35.00 per M
1 x 4 No. 3 flooring	32.00 per M
No. 1 common run to T. & G.	28.00 per M
Lath	5.00 per M

Shingles (add cartage to prices quoted)—

Redwood, No. 1	$ .85 per bdle.
Redwood, No. 2	.65 per bdle.
Red Cedar	.85 per bdle.

Hardwood Flooring (delivered to building)—

13-16x3¼" T & G Maple	$105.00 M ft.
1 1-16x2¼" T & G Maple	135.00 M ft.
⅞x3½ sq. edge Maple	122.50 M ft.

	13-16x2¼" T&G	¾x2" T&G	6-16x2" Sq.Ed.
Clr. Qtd. Oak	$175.00 M	$125.00 M	$158 M
Sel. Qtd. Oak	115.00 M	95.00 M	110 M
Clr. Pla. Oak	110.00 M	87.00 M	95 M
Sel. Pla. Oak	106.00 M	68.00 M	82 M
Clear Maple	110.00 M	82.00 M	
Laying & Finishing	16c ft.	15c ft.	13c ft.

Wage—Floor layers, $9.00 per day.

Building Paper—

1 ply per 1000 ft. roll	$2.80
2 ply per 1000 ft. roll	4.2[illegible]
3 ply per 1000 ft. roll	6.50
Sisalkraft, 500 ft. roll	5.60
Sash cord com. No. 7	$1.00 per 100 ft.
Sash cord com. No. 8	1.10 per 100 ft.
Sash cord spot No. 7	1.60 per 100 ft.
Sash cord spot No. 8	1.90 per 100 ft.

Sash weights cast iron, $46.00 ton
Nails, $2.85 base.
Belgian nails, $2.60 base.

Millwork—
O. P. $72.50 per 1000. R. W., $76.00 per 1000 (delivered).
Double hung box window frames, average, with trim, $5.00 and up. each.
Doors, including trim (single panel, 1¾ in. Oregon pine) $5.75 and up, each.
Doors, including trim (five panel, 1¾ in. Oregon pine) $5.50 each.
Screen doors, $3.50 each.
Patent screen windows, 20c a sq. ft.
Cases for kitchen pantries seven ft. high, per lineal ft., $4.25 each.
Dining room cases, $5.25 per lineal foot.
Labor—Rough carpentry, warehouse heavy framing (average), $11.00 per M.
For smaller work, average, $22 to $30 per 1000.

NOTE — Above quotations are for ¾ inch wainscot in large slabs f.o.b. factory. Prices on all other classes of work should be obtained from the manufacturers.

Floor Tile—Set in place.

Verde Antique	$2.50 sq. ft.
Tennessee	1.50 sq. ft.
Alaska	1.35 sq. ft.
Columbia	1.45 sq. ft.
Yule Colorado	1.45 sq. ft.
Travertine	1.60 sq. ft

Painting—

Two-coat work	27c per yard
Three-coat work	36c per yard
Cold Water Painting	8c per yard
Whitewashing	4c per yard

Turpentine, 85c per gal. in cans and *9c per gal. in drums.
Raw Linseed Oil—71c gal. in bbls.
Boiled Linseed Oil—72c gal. in bbls.
Medusa Portland Cement Paint, 20c per lb.

Carter or Dutch Boy White Lead in Oil (in steel kegs).

	Per Lb.
1 ton lots, 100 lbs. net weight	10½c
500 lb. and less than 1 ton lots	12c
Less than 500 lb. lots	10¾c

Dutch Boy Dry Red Lead and Litharge (in steel kegs).

1 ton lots, 100 lb. kegs, net wt.	10½c
500 lb. and less than 1 ton lots	12c
Less than 500 lb. lots	10¾c

Red Lead in Oil (in steel kegs)

1 ton lots, 100 lb. kegs, net. wt.	12c
500 lb. and less than 1 ton lots	12½c
Less than 500 lb. lots	12¾c

Note—Accessibility and conditions cause wide variance of costs.

Patent Chimneys—

6-inch	$1.00 lineal foot
8-inch	1.50 lineal foot
10-inch	1.85 lineal foot
12-inch	2.10 lineal foot

Pipe Casings — 12" long (average), $8.00 each. Each additional inch 10c.

Plastering—Interior—

	Yard
1 coat, brown mortar only, wood lath	$0.36
2 coats, lime mortar hard finish, wood lath	.45
2 coats, hard wall plaster, wood lath	.50
3 coats, metal lath and plaster	.90
Keene cement on metal lath	1.10
Ceilings with ¾ hot roll channels metal lath	.65
Ceilings with ¾ hot roll channels metal lath plastered	1.30
Shingle partition ¾ channel lath 1 side	.60
Single partition ¾ channel lath 2 sides 2 inches thick	2.00
4-inch double partition ¾ channel lath 2 sides	1.20
4-inch double partition ¾ channel lath 2 sides plastered	2.25

Plastering—Exterior—

	Yard
2 coats cement finish, brick or concrete wall	$ .90
2 coats Atlas cement, brick or concrete wall	1.15
3 coats cement finish No. 18 gauge wire mesh	1.60
3 coats Medusa finish No. 18 gauge wire mesh	2.90

Wood lath, $4.00 per 1000.

2.5-lb. metal lath (dipped)	.15
2.5-lb. metal lath (galvanized)	.18
3.4-lb. metal lath (dipped)	.20
3.4-lb. metal lath (galvanized)	.25

¾-inch hot roll cbannels, $45 per ton.

Finish plaster, $16.40 ton; in paper sacks, Dealer's commission, $1.00 off above quotations.
$13.85 (rebate 10c sack).
Lime, f.o.b. warehouse, $2.25bbl.; cars, $2.15
Lime, bulk (ton 2000 lbs.), $16.00 ton.
Wall Board 5 ply, $43.00 per M.
Hydrate Lime, $19.50 ton.

Composition Stucco—$1.35 to $1.75 per sq. yard (applied).

Plumbing—
From $58.00 per fixture up, according to grade, quantity and runs.

Roofing—
"Standard" tar and gravel, $5.00 per square for 30 squares or over.
Less than 30 squares, $5.25 per sq.
Tile, $17.00 to $30.00 per square.
Redwood Shingles, $11.00 per square in place.
Cedar Shingles, $10 sq. in place.
Recoat, with Gravel, $3.00 per sq.

Sheet Metal—
Windows—Metal, $1.80 a sq. foot.
Fire doors (average), including hardware, $2.00 per sq. ft.

Skylights—
Copper, $1.00 sq. ft. (not glazed).
Galvanized iron, 25c sq. ft. (not glazed).

Stone—
Granite, average, $7.00 cu. foot in place.
Sandstone, average Blue, $3.50; Boise, $2.60 sq. ft. in place.
Indiana Limestone, $2.60 per sq. ft. in place.

Store Fronts—
Copper sash bars for store fronts, corner, center and around sides, will average 70c per lineal foot.
Note—Consult with agents.

1932 Wage Schedule for San Francisco Building Trades

ESTABLISHED BY THE IMPARTIAL WAGE BOARD OCTOBER 17, 1931.

This scale is to be considered as a minimum and employees of superior skill and craft knowledge may be paid in excess of the amounts set forth herein.

CRAFT	Journeymen Mechanics	Helpers
Asbestos Workers	$ 8.00	$.
Bricklayers	11.00	.
Bricklayers' Hodcarriers	7.00	.
Cabinet Workers (Shop)	7.50	.
Cabinet Workers (Outside)	9.00	.
Caisson Workers (Open)	8.00	.
Carpenters	9.00	.
Cement Finishers	9.00	.
Cork Insulation Workers	9.00	.
Electric Workers	9.00	.
Electrical Fixture Hangers	8.00	.
Elevator Constructors	10.00	7.00
Engineers, Portable and Hoisting	9.00	.
Glass Workers	8.50	.
Hardwood Floormen	9.00	.
Housemovers	8.00	.
Housesmiths, Architectural Iron	9.00	.
Housesmiths, Reinforced Concrete, or Rodmen	9.00	.
Iron Workers (Bridge and Structural), including Engineers	11.00	.
Laborers (6-day week)	5.50	.
Lathers, Channel Iron	10.00	.
Lathers, All Other	8.50	.
Marble Setters	10.00	6.00
Marble Cutters and Copers	8.00	.
Marble Bed Rubbers	7.50	.
Marble Polishers and Finishers	7.00	.
Millmen, Planing Mill Dept.	7.00	.
Millmen, Sash and Door	6.00	.
Millwrights	9.00	.
Model Makers	10.00	.
Model Casters	9.00	.
Mosaic and Terrazzo Workers	9.00	.
Painters	9.00	.

CRAFT	Journeymen Mechanics	Helpers
Painters, Varnishers and Polishers (Shop)	$ 7.50	$
Painters, Varnishers and Polishers (Outside)	9.00	.
Pile Drivers and Wharf Builders	9.00	.
Pile Drivers Engineers	10.00	.
Plasterers	11.00	.
Plasterers' Hodcarriers	7.50	.
Plumbers	10.00	.
Roofers, Composition	8.00	.
Roofers, All Others	8.00	.
Sheet Metal Workers	9.00	.
Sprinkler Fitters	11.00	.
Steam Fitters	10.00	.
Stair Builders	9.00	.
Steel Pan, Concrete	7.00	.
Stone Cutters, Soft and Granite	8.50	.
Stone Setters, Soft and Granite	9.00	.
Stone Carvers	8.50	.
Stone Derrickmen	9.00	.
Tile Setters	10.00	6.00
Tile, Cork and Rubber	9.00	.
Auto Truck Drivers—Less than 2,500 lbs.	6.00	.
Auto Truck Drivers—2,500 lbs. to 4,500 lbs.	6.50	.
Auto Truck Drivers—4,500 lbs. to 6,500 lbs.	7.00	.
Auto Truck Drivers—6,500 lbs. and over	7.50	.
General Teamsters, 1 Horse	6.00	.
General Teamsters, 2 Horses	6.50	.
General Teamsters, 4 horses	7.00	.
Plow Teamsters, 4 Horses	7.00	.
Scraper Teamsters, 2 Horses	6.50	.
Scraper Teamsters, 4 Horses	6.50	.

GENERAL WORKING CONDITIONS—

1. Eight hours shall constitute a day's work for all crafts, except as otherwise noted.

2. Plasterers' Hodcarriers, Bricklayers' Hodcarriers, Roofers' Laborers and Engineers, Portable and Hoisting, shall start 15 minutes before other workmen, both at morning and at noon.

3. Five days, consisting of not more than eight hours a day, on Monday to Friday inclusive, shall constitute a week's work.

4. The wages set forth herein shall be considered as net wages.

5. Transportation costs in excess of twenty-five cents each way shall be paid by the contractor.

6. Traveling time in excess of one and one-half hours each way shall be paid for at straight time rates.

7. Overtime shall be paid as follows: For the first four hours after the first eight hours, time and one-half. All time thereafter shall be paid double time. Saturdays (except Laborers), Sundays and Holidays from 12 midnight of the preceding day, shall be paid double time.

8. On Saturday Laborers shall be paid straight time for an eight-hour day.

9. Where two shifts are worked in any twenty-four hours, shift time shall be straight time. Where three shifts are worked, eight hours' pay shall be paid for seven hours on the second and third shifts.

10. All work, except as noted in paragraph 11, shall be performed between the hours of 8 a. m. and 5 p. m.

11. In emergencies, where premises cannot be vacated until the close of business, men then reporting for work shall work at straight time. Any work performed on such jobs after midnight shall be paid time and one-half up to four hours of overtime and double time thereafter, provided, that if a new crew is employed on Saturdays, Sundays or Holidays which has not worked during the five preceding working days, such crew shall be paid time and one-half. No job can be considered as an emergency job until it has been registered with the Industrial Association and a determination bas been made that the job falls within the terms of this section.

12. Recognized holidays to be: New Year's Day, Decoration Day, Fourth of July, Labor Day, Admission Day, Thanksgiving Day, Christmas Day.

13. Men ordered to report for work, for whom no employment is provided, shall be entitled to two hours' pay.

14. This award shall be effective in the counties of San Francisco and Alameda.

proven professional ability in order that our Federal architecture may truly represent our national genius and keep pace with the rapid development of the arts of architecture and engineering. Architects or engineers shall not be employed without prior submission to the Secretary of the Treasury of satisfactory evidence of their qualifications and experience.

Section 3. That wherever circumstances warrant, such services shall be contracted for by the employment of the ablest architects and engineers resident in the general sections of the country wherin such Fderal buildings are to be erected.

Section 4. At the discretion of the Secretary of the Treasury, the employment of outside architects or engineers may be omitted in connection with public buildings of a total cost for building and site of not more than fifty thousand dollars ($50,000).

Section 5. That all such individuals, firms or corporations shall render their services subject to the approval and under the direction of the Supervising Architect of the Treasury, whose duty it shall be to act for the Government in all matters regarding sites, the allotment and subdivision of space, the control of technical detail, the letting of contracts, and the supervision of the erection of said Federal buildings.

Section 6. Nothing in this act shall be construed to affect the duties of the Supervising Architect of the Treasury in regard to maintenance, alterations, repair, or supervision of either existing or proposed public buildings.

Section 7. That the cost of compensation for outside professional or technical services shall be charged to the appropriation for the construction of the building for which such services are rendered.

Section 8. All acts or parts of acts inconsistent with the terms of this act are hereby repealed.

RECOMMENDS LOCAL ARCHITECTS

The following resolution has been passed by the Western Division of the National Chamber of Commerce:—

The Western Division recommends that, in the case of the construction of government buildings, the government architect should act only in the capacity of a supervising or consulting architect and as liaison officer between government departments in the preparation of building plans and programs; and further that local architects and engineers, who customarily have a more intimate knowledge of local materials and local conditions, be employed to the fullest possible extent in government building activities.

The Western Division further recommends that the Board of Directors of the National Chamber should request the Committee on Government Competition in Business to give thorough consideration to this matter with a view to including within its final report recommendations looking to the elimination of this type of government competition.

REDWOOD INTERIORS

The California Redwood Association has started a drive to interest architects in the possibilities of redwood for interior finish. Redwood is one of the few building materials that an architect can play with to the extent of working out original and distinctive designs, using his genius and artistic ability to accomplish unusual effects. Every California house, in the opinion of the Association, should have its redwood room, if the house is to be typical of California.

It is not generally known that redwood grows only in the state of California. "Just as we have California architecture in residence design," says a member of the Association, "so we should have a California redwood room, outstanding for its uniqueness and of interest to the owner and his guests because of what it typifies."

Redwoods' natural color ranges from cherry red to mahogany. Two coats of a good grade of floor wax are used as a base for a natural finish and a natural finish blends well in most settings. For a den or library, redwood paneled walls and ceilings offer an effective treatment. The use of certain acid stains to react with the normal chemicals prevalent in redwood, produces color combinations not possible with many other woods. A particularly successful and popular stain is known as "driftwood gray."

The Swedish provincial room in the John Breuner Store, Oakland, is an outstanding example of the possibilities of California redwood for interior finish.

Redwood also has its appeal for exterior construction. An outside finish with oil will weather to dark rustic. For half timbered effects redwood blends particularly well.

SACRAMENTO BUILDING OUTLOOK

Building projects to cost $4,019,830 will be completed in Sacramento this year, according to a newspaper announcement. Three of the projects were started late in 1931 and the rest will get under way early this year. The projects follow:

Postoffice and Federal building, $1,000,000; three junior high schools, $1,000,000; American river flood control work, $875,000; county home for the aged, $100,000; addition to the City Hall, $100,000; eighteen-hole golf course, $100,000; additions to the filtration plant, $504,830; Catholic orphanage, $250,000, and an addition to the State printing plant, $100,000.

Two major projects, involving an expenditure of $300,000, will be undertaken by the county in 1932. One will be a new bridge across the American river on the Fair Oaks Boulevard to cost $200,000, and the other will be the county poor farm to cost $100,000.

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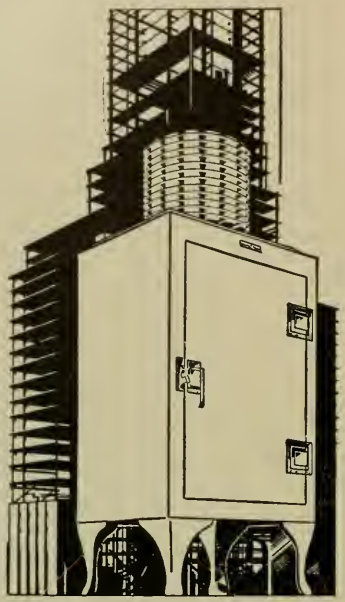

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MARBLE GLASS

[Concluded from Page 74]

These slabs may be made any size, color or texture. Striking and original combinations are possible. Marbles quarried in this country and abroad may be imitated with remarkable likeness, according to a representative of the manufacturers. Lines as fine as the human hair may be embodied in the design.

"Marble-glass", explained one of the promoters, "is as durable as stone and requires little or no service to keep it clean and glossy. An occasional dusting of the glass is all that is needed to retain the polished effect.

"The back of the glass slab is protected with a thin fabric which acts as a reinforcement. To install, the slabs are set in a resilient or onyx cement. Ample provision is made for expansion and contraction. Cost of installation is very economical.

"The material is adaptable for the exterior of buildings, particularly store fronts, offering a light type of veneer that may be combined with metal with very satisfactory results. It may also be used in vestibules of large buildings, hotel lobbies, theater foyers, halls and corridors, rest rooms and for small pieces of furniture, such as desk tops, serving tables, etc."

A varied assortment of samples simulating many of the higher type marbles may be seen at the MacGruer Studio in San Francisco.

Recent contracts include Tate's cafeteria and the Downey Flake Doughnut Shop, both in San Francisco. Cobbledick, Kibbe Glass Company, San Francisco and Oakland, are the Northern California distributors of marble-glass.

LUMBER COMPANY HAS GOOD YEAR

The Sunset Lumber Company, Oakland, is one of few California industries that reports having closed the year 1931 with a profitable business. General Manager Pearce is reported as saying that the volume of orders during the closing months of 1931 more than offset the lull experienced the first part of the year.

Important contracts filled by the Sunset Company during the year included all the millwork at the Relief Home, Lick School, Girls High School and Municipal Health Center in San Francisco; lumber and millwork amounting to $30,000 for the Fremont High School, Oakland; lumber for the new Paramount Theater, Oakland, and 300,000 feet of lumber for the John Breuner building.

The Sunset Company is a member of the Millwork Institute of California which membership means that the millwork products of the company have been manufactured in accordance with the accredited standards for architectural woodwork.

BOOK REVIEWS

By Edgar A. Kierulff

PLANNING FOR GOOD ACOUSTICS. By Hope Bagenal, A. R. I. B. A. and Alex. Wood, D. Sc., M. A. Published by E. P. Dutton & Co., Inc., 300 Fourth Ave., New York City. Price $6.75.

In this excellently illustrated and well arranged book, the authors contribute a useful reference volume to the architectural profession. It embraces the important problems of acoustics dealing with the old as well as the new developments in the science. The radio and talking picture theater have given rise to new problems in acoustics which confront the architect in his modern practice.

The technical points are well taken concerning sound waves, absorption of echoes, pitch and timbre in general and then by specific formulas. This book is a direct contribution to modern architecture and should be well received by the profession.

FREEHAND DRAFTING. By Anthony E. Zipprich. Published by D. Van Nostrand Company, 8 Warren Street, New York City.

A simplified handbook which will give the user sufficient knowledge of the subject of freehand drafting to make his work of practical value in every day practice. It teaches the graphic language—drafting.

There are seventy-one illustrations detailing the problems outlined in the text and sketches. The student draftsman should find immediate and daily use for this book.

RECENT TRADE LITERATURE

The Holland Institute of Thermology, collaborating with Dr. E. Vernon Hall, has prepared an interesting brochure on "Air Conditioning in the House." It is a fact-book and embraces all the major points and problems of heating, humidity, ventilation and air conditioning and control in a thorough and exhaustive research. This brochure may be obtained by addressing the Holland Institute of Thermology at Holland, Michigan.

* * *

For the purpose of stimulating the steadily increasing interest in American walnut, a series of five attractive brochures to give manufacurers, designers and dealers interesting information regarding walnut and its use in certain important furniture styles, has been prepared by the American Walnut Manufacturers' Association, in addition to the many publications that have appeared during the past twelve years.

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LEWIS P. HOBART, *Architect*

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Other factual information in regard to the trend of woods used in furniture and interiors, a result of careful surveys, is graphically set forth in one of these folders as an aid to the architect.

The brochures, may be obtained from the Association, 616 South Michigan Boulevard, Chicago.

GENERAL VERSUS SEPARATE CONTRACTS*

By JOSEPH E. ROSATTI, *Architect*

For want of better names, the two methods of contracting now in use are designated as the general and the separate contract systems. Each of these two systems has its supporters and its enemies among the business agencies of construction and the engineer and the architect should be on his guard to figure out the motives of the individual or business group. Much has been written about them and considerable has been enacted into codes of practice or law, but through it all apparently runs a forgetfulness of those who pay the bill.

The general contractor, capable of financing and managing a job in its entirety, prefers the general contract, because it creates a demand for his specific service. A subcontractor may prefer the separate contract because it enables him to deal directly with the owner, thus getting away from certain abuses which can be practiced by unscrupulous general contractors. Some architects may believe that their conceptions are carried out more satisfying by separation, whereas others unquestionably lean toward it to escape the backfire of poor plans.

It is evident that either the general contract or the separate contract can be utilized to the specific convenience of one or another of the various agencies of construction but as all those agencies are presumed to serve the owner and as the owner's money makes building possible, it seems logical that his interests should be the criterion for judgment. Using this idea as the basis, the following analysis of the two systems is offered with the hope that the conclusions drawn may at least stimulate collective thinking.

The general contract in building operations is an agreement between an owner and a single construction agency whereby that agency agrees to deliver to the owner a structure fully completed in accordance with the plans and specifications of the designers. The outstanding characteristic of the general contract in comparison with other types is centralized responsibility for financing, general management and detailed timing of installations whereby the cost of the work and time of

* An address to the Associated Contractors of South Dakota.

completion may be controlled according to some rational and comprehensive plan.

The term separate contracts is applied to contracts whereby an owner enters directly into agreement with a number of independent contractors for the construction of the component parts of a project. Under this system no contractual relation exists between the various contractors and, generally speaking, each is an agent of the owner. The work of coordinating their work, or the general management of the job, is performed by an agent of the owner. In some cases certain parts are let to those who operate as subcontractors and the remaining major portion are awarded to some principal contractor. This partial separation is subject to the same reasoning as the complete separation, because the difference is only a matter of degree.

When a general contractor properly functions he finances the work during construction, performs certain parts of the work himself and coordinates the operations of all agencies working on the project, so that it may be constructed properly as a whole. Also he assumes certain risks and against which the owner is entirely protected.

These risks are as follows:

1. Delay in finishing job.
2. Increased cost of building.
3. Injury to workmen and public.
4. Patent infringements.
5. Injury to adjacent property.
6. Fire and theft.
7. Liens.
8. Default of subcontractors.
9. Imperfect materials, etc.

Contrary to the general opinion the principal function of the general contractor is not to erect steel, brick or concrete but to provide skillful centralized management for coordinating all the various trades, timing their installations and regulating their work to some set plan.

The general contract system holds one single agency, the general contractor, financially responsible for the completion of a project within a given time and for a specified price. If the time or cost should over-run, it's the contractor's loss and not that of the owner's. This is not true under the separate contract system where the architect or engineer is the general manager of the work. He does not presume to guarantee the cost or pay for the penalty for delay and he should not as his services are professional. When the professional, either architect or engineer, awards various portions of jobs to various contractors and he himself performs the managership necessary to coordinate

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their work, he is no longer a professional but a business executive.

Often the professionals have not understood the liabilities, etc. which a separate contract system places on an owner, nevertheless they are there, economically, ethically and legally, and the owner can not escape them. If the architect or engineer assumed these serious responsibilities the situation would be entirely different.

The liabilities mentioned are by no means imaginary and in many cases have cost the owner enormous sums of money. Under the separate contract system issues arise over the use of hoists, the laying out of conduits, storage of materials, the installation of safety devices and many other disputable matters. Such conditions as these cause confusion on the job, mutual interference among the various contractors, injection of extra expense and the filing of perfectly legitimate claims against each or the owner. And as there is no responsible agency between the owner and the various independent and separate contractors to absorb any loss the owner cannot escape payments of these legitimate claims. So from the owner's standpoint the general contractor is a safer bet than the professional architect or engineer for the former guarantees the price and also must foot the bills for any of his mistakes. If the professional desires to engage in business, he has the right to do so, but to exercise the business function involved in the separate contract system, and to let the owner proceed in such cases, without informing him of his liabilities, does not have the earmarks of fair play.

In matters of criminal liability due to various causes, if an owner is sued under the separate contract system he is very likely to be doubtful whether he should stand suit with the offending contractor or join with the plaintiff against him, while a properly drawn general contract centralizes all responsibility in a single agency whose obligations are relatively clear and can be reached at law and held responsible by an owner, should the performance be upset by ignorance, negligence or dishonesty of any agency on the job.

Some who favor the separate contract method in order to prove its adoption, cite cases where the total of the separate contracts is lower than the general contract bid. This they claim is economy but at the same time they fail to state that there are far more cases where the general bid is lowest.

There is another angle to bid prices, which overshadows the initial comparison, as follows: Assuming that plans and specifications are accurate, to complete them under a general contract, the contract price is all the owner is required to

pay but when several independent contractors are engaged on interlocking work under the direction of an architect or engineer the sum of their prices rarely, if ever, constitutes the total cost because extra expenses as already suggested arise from delays, interference, misplaced work and lack of cooperation between the various independent contractors. Under a general contract these extras are paid by the contractor himself.

There is also the point of competition to be considered. In receiving proposals for a general contract the owner gets a double competition; first, the competition of the subcontractors dealing with the general, and second, competition between the general contractors themselves. Often a general contractor considering a bid from a sub-bidder too high, will substitute his own figures and bring the cost of the work within them. Also it is commonly recognized that the general contractor receives lower bids from the various trades than an owner dealing directly, for the reason that he has his regular contracts with subcontractors who wish to deal with him in the future while the owner may never employ them again.

Some members of the mechanical trades in seeking to establish separate contracts have represented that general contractors add a margin to sub-bids, for which no service is given and that this margin called profit can be saved by dealing directly with subcontractors. Entirely aside from the management service of the general contractor there are many other expenses on the job which this so-called profit must meet. Inquiry among representative construction companies shows that the usual margin added to the subcontract is about five per cent. This amount in most cases is a service charge to compensate for such items as night watchman, superintendent, hoisting, storage space, protection from weather and other overhead expenses which are not included in the subcontractor's bid. Income tax reports show that the average net profits in contracting have been less than two per cent, and that approximately 30 per cent of the companies made no profit in 1924; therefore, there is evidently some room for doubt about the saving of this profit under separate contracts.

Another important fact is that workmanship and materials under the general contract system receive double inspection, one by the architect to protect the owner and the other by the general contractor to protect himself, for he is responsible to the owner for the work of the subcontractors. Under separate contracts the architect or engineer can doubtless receive a satisfactory quality of work of a specific contractor but quality in the

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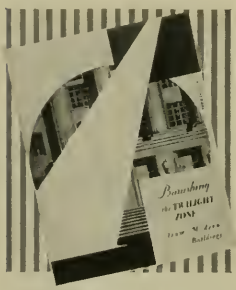

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specific trade does not insure quality on the project as a whole. Unless the various parts have been properly timed, joined and finished as a whole the value of the project is impaired.

A well-known architect has said that there never has been and probably never would be prepared a complete and perfect set of plans. Some changing and adjustment in the field is always necessary. This condition seems to necessitate some central agency in the contract to produce a structure that is integrally sound. Proper timing of operations is a necessity on which the quality of a building project particularly depends.

Under complete separation of contracts, proper timing, joining finish, cutting or patching is extremely difficult to produce. Each trade seems at liberty to bore holes but feels no need to their filling and finish. Under partial separation, where some principal contractor is held responsible for such work, this is also a problem as such contractor lacks control over those who do cutting, etc. Well, a number of construction firms that have been consulted have declared that they would like to be rid of the responsibility for the mechanical trades, were it not for the fact that when those trades operate under independent contracts, efficient operation and satisfactory conduct of work as a whole is impossible.

In conclusion, the general contract system was not suddenly conceived and launched upon the public but grew to meet the requirements of owners through a long period of years. It has endured in the hands of individuals who were unorganized, when all industry around them had developed strong trade associations. By its endurance has been demonstrated the soundness and economy of centralized construction management and it should not be cast aside merely to suit the convenience of a specific trade or profession. Rather than attempt to correct any group or individual annoyances by scrapping a system which is both theoretically sound and practical, the responsible parties of each group should cooperate in correcting abuses, until all parties concerned with construction wage war on ignorance and unethical practice within their ranks.

ENGINEERS ENGAGED

The Robert W. Hunt Company, engineers, have been commissioned by the Southern California Telephone Company to make mill, shop and field inspection of the structural steel which will enter into the new Angelus exchange, Fourth and Lorena Streets, Los Angeles. McClintic-Marshall Company have the contract to furnish the structural steel.

A HOME FOR $3,000

An ideal home built to sell for $3,000 and capable of being erected in a week should be evolved by architectural research to solve the low-cost housing problem, it is declared by Wallace K. Harrison of the New York Chapter of the American Institute of Architects.

Building is almost the only field that is under-produced rather than over-produced, he says, asserting that business must look to the construction industry for an upturn.

"There were 300,000 houses built in 1929 at prices around $5,000—a billion dollar industry," continues Mr. Harrison, who is a partner of Harvey Wiley Corbett, chairman of the Architectural Commission of the Chicago World's Fair in 1933.

"There were less than 100,,000 houses built in 1931 at less than $5,000, or 30 per cent of the 1926 we had caught up the slack; from 1926 to year at less than $5,000, or 30 per cent of the 1929 figure. From 1920 to 1923 there was no 1928 we were building surplus. Since 1928 we have been trying to digest this surplus.

"While the three great questions of today, the treaty of Versailles, Russian dumping, and general over-production, may affect us vitally, it is to the building industry that we must look for signs of recovery.

"Unfortunately, due to lack of incentive, the condition of the industry now is creating problems for both architects and producers. Eddie Cantor's story about the Indians getting the best part of the deal when they sold Manhattan Island for twenty-four dollars and a few bottles of rum is very nearly true, or will be this winter.

"But, there is the additional hope that in the last few weeks the prices of houses have started to rise. Building is still a biological necessity. The desire to change from city to country is stronger and more fundamental than the country to city urge. We must all walk on green grass and occasionally feel natural.

"Socrates expressed the fear that the human race was losing all attachment to the soil because living in the high apartments of the paved city of Athens had created an artificial life. After two thousand years this story was heard again in 1929, but that idea is over.

"People do not want to own a co-operative part of a bee-hive smothered by smoke, deafened by sound and fumed out by gasoline; but they do thrill at the idea of a home where they can close the gate and defy the world.

"In New York and other large cities, the lack of city planning has made for the breakdown of communication and the congestion of people. Even

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now the millionaire on Park Avenue lives in poorer quarters than the lowliest peasant in many countries abroad.

"Wall Street, where he works, is even worse. It is only by such gigantic group efforts as Mr. Rockefeller's Center that the city can be saved from suffocating and from a fate like that of Sienna in the 1300's. Unfortunately we have too few Mr. Rockefellers, and it will take years for this lesson to do any good.

"The people who work and live under bad conditions during boom times will have to go back to the country; and this means more homes. Who is to provide these? The building industry or the great individual corporations?

"The latter have already made great strides, for they realize that the answer is a mass-produced house made in a factory, as an auto is made: taking advantage of a standard product, continuous production winter and summer, with a factory wage of $7.00 a day in place of a job wage of $12.00 a day for the bulk of the work.

"After a year's study I am convinced that the architect, producer, contractor and union laborer can do a better job. Already such men as Kocker, Davidson, Fuller, Beckwith and Davis have studied this problem for years. I have such faith in the possibilities that I have built a house of glass and aluminum in which to live and study the advantages and defects of the method.

"To develop our work in this field we need a research bureau,, whose task it will be to study and produce a house which can be sold for $3,000 on very long term credits permitting installment payments and pay a profit.

"It must be fireproof, stormproof and floodproof; full of sunlight; with every modern device; erected by union labor; sold by present material men; and able to pass all building laws. It must be capable of being erected in a week or less; be light, mechanically simple, and perfectly planned to relieve the housewife of all drudgery.

"One item which will be a great aid is the change in fashion which has come in the designs of furnishings and houses in recent years—modern design through which the machine is used in place of the craftsman and individual artisan of the past.

"This style lends itself particularly to mass production. Builders in this country do not yet realize how definitely this style has spread over Europe."

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WHAT OF ARCHITECTS?

By Robert D. Kohn, F. A. I. A.

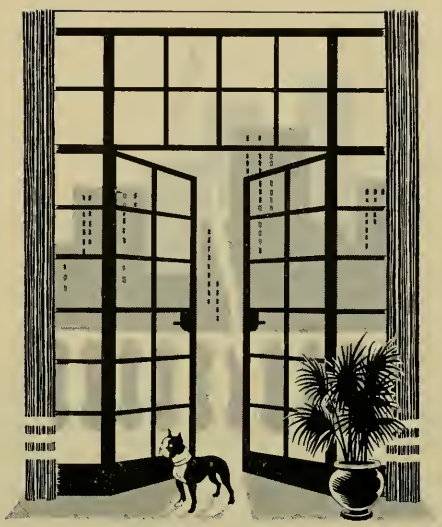
YOU have asked me to send your Chapter a sort of presidential message, and incidentally to suggest subjects that your Chapter could take up and discuss during the coming season. I wish that I might send you a cheerful reply, to say to you that all is well with this, the best of worlds, and that we can devote ourselves to our Art, now and forever hereafter, unhampered by mere material considerations—but alas, the truth is other.

It is a commonplace to say that we are going through a critical period in which the whole world is involved. We know only too well that we cannot consider the situation of our profession apart from that of all the other groups since that would result only in near-sighted conclusions as inconsequential as those of the far-famed "tailors of Tooley Street." But can we not consider our problems in so broad a way as to bring the results in line with the search for a planned economy which is being urged today on the world at large. While such studies are difficult and the causes and cures for our economic troubles are apparently remote, yet it seems to me to be very worthwhile to devote a certain amount of time to such consideration none the less.

Perhaps we can find guidance among the economists, both political and social, despite the fact that there are as many different theories among them as there are men. My own interest is in those few philosophers among them who have given thought to the possibilities of a planned production for use. We probably all agree that there are invaluable talents going to waste in our profession; excellent artists who never get a fair chance to show what they can do. The question is are we to continue to depend on mere chance for an opportunity to practice our art. Is it to continue to be a hit-and-miss proposition? Or can the subject of necessity building construction be studied as will be the production of goods and chattels? How would we go about determining such production which is for real need as against what has been, a production solely dependent on salesmanship and hoped-for profits? To my mind this will be the test of the value of our thinking in our emergency, namely: whether we consider the present as a depression, a slump from normal and wait for a resumption, or attack it as a period for fundamental reconstruction.

So much for my philosophy about which every-

Editor's Note—This article, published in the Institute Journal, is in the nature of a reply by the President of the American Institute of Architects to a request from one of the Institute Chapters, for a message of cheer in these trying times for the profession.



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one else may differ. Now to report on more practical matters. The Institute has under way certain things which have some bearing on the present situation. The most obvious of these is the question of Public Works. Under the leadership of Mr. La Beaume real progress has been made in the last few months. There have been some unfortunate (or fortunate?) differences of opinion on certain questions of fact between the committee and the government. Unofficial critics of the government have said unkind things and evoked rather sharp retorts. But it is a fact that the employment of outside architects by the Federal Government is more widespread than ever before and the appointments are not confined to the eastern part of the country nor to a particular group of architects. But it appears that the Treasury Department considers the engagement of (over a hundred) outside architects as merely an emergency measure to be abandoned as soon as we get back to normal. In accordance with the Institute's policy that such employment is essential for the permanent improvement of government architecture it is our task to avert this threatened setback. This would be a fitting subject for discussion at Chapter meetings throughout the country.

It is generally said that there is only one field in which we are not overbilt, that of residence building. This is said to be the only form of construction that offers a reasonable economic field for construction work this year. Can we do anything to advance low-cost home building? Can architects join with real estate men, builders and bankers to promote projects of group housing? Perhaps architects still think too much in terms of a house as a unit instead of considering the group as a unit, properly planned in relationship to each other and to future development. The press has urged this as the field for emergency action in the building industry: that over 98 per cent of the people of the United States have an income of less than $5.000, and that a very large percentage of the dwellings in which these people live are antiquated and inferior. We know that we have to meet the problem of secondary financing, that is to say, the providing of funds to meet the differences between the first mortgages and let us say 90 per cent of actual cost. Can we help create local or national emergency funds for this purpose as was done some years ago to finance the rebuilding of certain cyclone destroyed areas of the middle West?

The Institute has encouraged a move towards the unification of the profession. This, too, needs the help of local groups. It seems agreed that we are going to propose some scheme to bring every practicing architect in the United States into relationship with the Institute.

Considered as a factor in reconstruction, probably the fourth field of importance in the Institute's present work is its effort to get such cooperation between the major groups of the building industry as to make an effective working unit of the industry as a whole. With the approval of other groups, the Committee on Industrial Relations of the Institute invited eighteen national associations to send delegates to a conference of the building industry held at The Octagon in Washington, September 23 and 24. We did not propose creating a super-organization of the building industry. We hoped that all elements concerned in building design and construction would agree to participate in periodic conferences at which the officers of every national group will learn from every other group what the organization is doing in its own field, which is of value to the industry as a whole. Some Chapters of the Institute have started to do this in their own localities through local building congresses. This kind of cooperative effort will unquestionably help every element participating. It helps most of all any group which takes the leadership because of the value of its suggestions and the progressive nature of its projects.

At a time like this we must be looking out for those more sorely tried than we are. Among these are the juniors, the younger men just entering the profession. What of the thousand men who have been graduated from the architectural schools in the last two years, and thus thrown on an exceptionally unkind world? I hope that every Chapter of the Institute will hold at least one meeting this winter to which it invites every young architect it can get hold of. If we do no more than make these youngsters feel that there is a spirit of fellowship between us (and incidentally we sit down to dinner with them) we will have cheered up a lot of young men who need cheering up worse than we do.

And then, there are the thousands of draftsmen who are out of work. We will all have to take hold again this winter and try to help take care of some of these of our own group who are suffering most. Perhaps something is to be learned from the report of the emergency employment plan for architectural draftsmen carried on last winter by the New York Chapter. While only a limited number of men could be put to work in New York (in the Small House Service Bureau) because of limited funds, those in charge of that work are convinced that it did more than employ the unemployed and turn out a few house designs. The men thus employed actually learned a lot about small house design in the course of their work. And the volunteers who guided the work and those who gave the money were doubly rewarded. Probably

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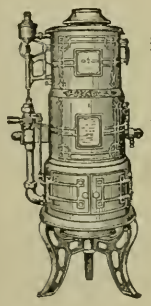

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there are other communities which can adopt some such scheme if they find themselves up against the same serious situation.

These are the larger problems of the winter as I see them. But there are matters of current technical interest which we can use to keep our members interested in meetings in this period when they have time to study such problems. At the New England Regional Conference in July the architects visited the many important new buildings in the neighborhood of Hartford and New Haven and then held an "architectural clinic" on these buildings behind closed doors; for members only! It developed into the most exhilarating lot of criticism of architectural design that has been heard for many a moon. Why should not architects frankly discuss designs of current buildings between themselves, not as questions of personal taste but as logical analyses? The Boston Chapter reports that it is to hold a series of "architectural clinics" this winter on other kinds of topics. One of them I know is to be on the subject of leaky walls. I would like to hear that myself. I need it. And then there is no reason why, just because we are hard up, we need to forget aesthetics entirely. Every Chapter could have a wonderful time with evenings devoted to a discussion of modernism in architecture, and to the logical uses of the new materials and methods that are available.

LOW BUILDING COSTS NOW

Money now being collected for general relief could do double service if applied to needed construction, it is declared by the Construction League of the United States, recently organized to co-ordinate and to stabilize the national building industry under the headship of Robert D. Kohn of New York, president of the American Institute of Architects. There can be no economic recovery while construction remains at its present low ebb, it is asserted.

National, state, county, and municipal bond issues are urged to speed construction, to "relieve" relief agencies, and to guard against making public charges of the unemployed.

The statement of the League, composed of leading organizations devoted to construction, including architects, engineers, contractors, sub-contractors, labor, and producers of materials, is issued by a public information committee of which Horace W. Peaslee of Washington, a representative of the American Institute of Architects, is chairman. It follows:

"With due allowance for the confusing interlocking wheels of business, the Construction League feels justified in sustaining the conclusion reached by many others that there can be no gen-

eral improvement in economic conditions so long as construction work lags throughout the country.

"At the present time, sixty per cent of the skilled workmen and laborers of the country are idle. This represents one of the country's largest earning and buying groups, who are not only now deprived of buying power but, unless conditions change, may become public or semi-public charges, further depressing the depression.

"This statement is not advanced with prime regard to the interest of the construction industry. The League, in fact, is merely supporting many independent expressions of like opinion. But it is important to point out how some of the money now collected for general relief could do double service, if applied to needed construction.

"The League realizes that immediate and generous relief is necessary this winter, but such relief produces no economic return. The League places itself on record as emphatically opposed to Government doles, total economic losses which provide no economic returns and involve far-reaching effects on the morale of the citizenship and on problems of government. Every man should be afforded an opportunity to earn his living. Where relief funds are distributed in return for labor and materials, buying power can be restored and tangible results obtained, all of which will tend to bring back better economic conditions.

"For these reasons, the Construction League calls attention to the present low cost levels of construction, with the advantage to public and private interests of proceeding at once with construction work of all kinds—highways, utilities, building programs, as well as home building, modernization and furnishing. Here arises, however, the factor of financing, on which certain groups are already working, and from them definite recommendations and assistance must be forthcoming.

"As a major element in this movement, the Construction League urges that wherever possible institutional, municipal, county, state and national bonds be issued, for needed construction works of all kinds. The present low level of construction costs, to a large extent, offsets the costs of immediate financing. Such steps have already been taken in several instances, of which one or two notable examples may be specially cited.

"Kansas City, by a $38,000,000 bond issue, has largely relieved the present situation of unemployment, and is also stabilizing its business conditions for the immediate future. In Indiana, a remodeling and modernization program, known as the Muncie Plan and sponsored by the Indiana Building Congress, has been so effective that one trade is reported to have urged that further efforts be suspended, as it is overloaded with work.

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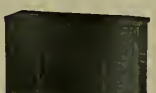
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The following report on Federal building projects, Pacific Coast States, has been made public by the Supervising Architect, Treasury Department, Washington, D. C.:

Plans Being Prepared

Postoffice, Yuma, Arizona, to cost $190,000. Roy Place, Tucson, Arizona, architect.

Postoffice, Phoenix, Arizona, $1,080,000. Lescher & Mahoney, Phoenix, Arizona, architects.

Border Station, Douglas, Arizona, $65,000.

Postoffice, Beverly Hills, California, $300,000. Ralph Flewelling, 450 N. Beverly Drive, Beverly Hills, architect.

Postoffice, Calexico, $73,000.

Postoffice, El Centro, $140,000.

Postoffice, Glendale, California, $455,000. Geo. M. Lindsey and Erwood P. Eiden, 609 Union Insurance Building, Los Angeles, architect.

Postoffice, Marysville, California, $150,000. John J. Donovan, 1916 Broadway, Oakland, architect.

Postoffice, Merced, California, $180,000. Allison & Allison, California Reserve Building, Los Angeles, architects.

Postoffice, Modesto, California, $195,000.

Postoffice, Monterey, California, $180,000. William Otis Raiguel, Del Monte, architect.

Postoffice, Palo Alto, California, $210,000. Birge M. Clarke,

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310 University Avenue, Palo Alto, architect.

Postoffice, Petaluma, California, $165,000.

Postoffice and court house, San Francisco, $750,000. George W. Kelham, 315 Montgomery Street, San Francisco, architect.

Postoffice, Napa, California, $140,000. Reed & Corlett, Oakland Bank Building, architects.

Border station, San Ysidro, $105,000.

Border station, Tecate, $59,500.

Postoffice, St. Johns, Oregon, $60,000. Francis M. Stokes, Chamber of Commerce Building, Portland, Oregon, architect.

Postoffice, Bingham Canyon, Utah, $75,000. Scott & Welch, Salt Lake City, architects.

Postoffice, Cedar City, Utah, $150,000. Carman & Fetzer, Salt Lake City, Utah, architects.

Forest Service, Ogden, Utah, $300,000. Hodgson & McClenahan, Salt Lake City, Utah, architects.

Postoffice, Toocle, Utah, $75,000. Miles E. Miller, Salt Lake City, Utah, architect.

Postoffice, Elko, Nevada, $140,000.

Postoffice, Ely, Nevada, $95,000.

Postoffice, Reno, Nevada, $565,000. Fred J. Delongchamps, Gazette Building, Reno, architect.

Postoffice, Weiser, Idaho, $110,000. Eastman Building, Boise, Idaho, architect.

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$240,000. McIver & Cahagan, Billings, architects.

Border station, Rooseville, Montana, $61,000.

Postoffice, Chehalis, Washington, $150,000.

Postoffice, Longview, Washington, $210,000. Bebb, Gould & Graham, Seattle, Washington, architects.

Postoffice, Redlands, California, $170,000. G. Stanley Wilson, Riverside, architect.

Postoffice, Marshfield, Oregon, $140,000. Johnson & Wallwork, Portland, architects.

Immigration station, Honolulu, $415,000. Herbert C. Cayton, Honolulu, T. H., architect.

Specifications Complete

Postoffice, Oroville, California, $145,000. Fred H. Meyer, 525 Market Street, San Francisco, architect.

Postoffice and court house, Sacramento, California. $1,300,000. Starks & Flanders, Forum Building, Sacramento, architects.

Postoffice, Bend, Oregon, $155,000.

Postoffice and court house, Pocatello, Idaho, $220,000. Frank H. Paradise, Jr., Pocatello, architect.

Site Accepted

Postoffice, San Jose, California, $455,000. Ralph Wyckoff, Growers Bank Building, San Jose, architect.

Postoffice, Vallejo, California, $200,000. Dean & Dean, California State Life Building, Sacramento, architects.

Postoffice, Visalia, California, $150,000. W. D. Coates, Jr., Co., Rowell Building, Fresno, architects.

Postoffice, Los Angeles, California, $950,000. Austin & Ashley, Chamber of Commerce Building, architects.

Branch postoffice, Los Angeles, California, $70,000.

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FEDERAL CONTRACTS

Changes in the government regulations for award of contracts to other than the low bidders are promulgated by the War Department in a revision of Paragraph 719.1, "Contracts Requiring Approval," of General Orders No. 4 office of the chief of engineers, 1930; which has been amended to read as follows:

"When contracts require the approval of higher authority, the abstract of bids, accompanied by one copy (the original) of each bid received, will be forwarded, with recommendation for action, to such higher authority for approval antecedent to any action thereon which obligates the Government.

"Before recommending award to other than the lowest bidder, the district engineer will advise all lower bidders in writing of the grounds on which recommendation for the rejection of their bids is contemplated, and will further advise them of the reasonable period, usually not exceeding five days, in which they may file with him a written statement showing cause why their bids should not be rejected. Copies of such letters to bidders, and originals of protests received, with the district engineer's comments thereon, will be forwarded with the abstract of bids.

"When approval of award is within the authority of the division engineer, the latter will immediately report his action thereon, to the chief of engineers, with a copy of the abstract of bids and of the recommendation of the district engineer. If award be made to other than the lowest bidder, copies of the district engineer's letter of advice to lower bidders, of protest received, and of the district engineer's comments thereon, will also accompany the report."

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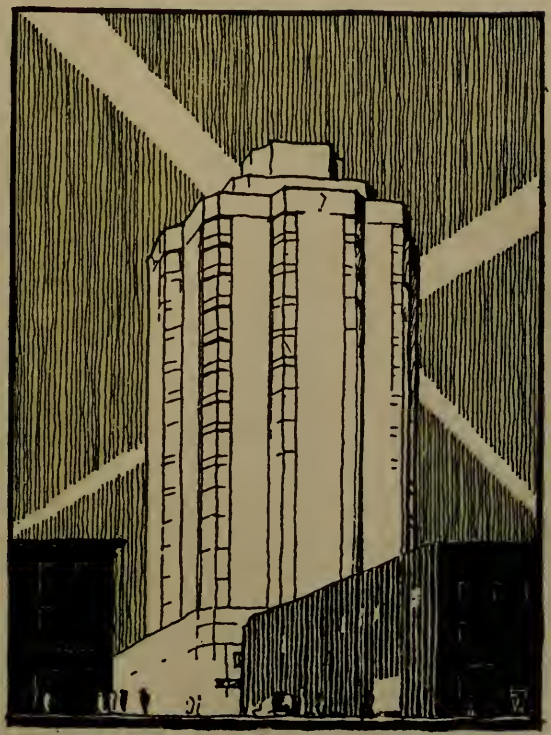

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Anticipating an ever-increasing demand for the new and the modern, Otis has experimented with metals and alloys to develop unusual design and color in elevator ornamentation. Many of these new designs are now standard equipment. But to make the range of elevator finishes still wider and leave the choice of ornamentation entirely within the realm of the architect, Otis is also prepared to execute any special design or finish that the architect may wish. That is why many of the elevators which are being installed today will not only give highly satisfactory service. They will also add appreciably to the inside finish of the building itself.

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THERE are going to be hundreds of people called "lucky" in a year or so because they had the foresight to buy or build a home when a dollar was at the height of its buying power, as it is now. Other costs are down, too, including furniture and things that go into the making of a home. Without resorting to actual figures, it is said that enough can be saved in either buying or building a home to completely furnish it. This is on a basis of 1926 building costs At the first signs of recovery, house and apartment rentals will go up with the demand as families now "doubling-up" seek separate quarters. An editorial in *Stone* says that this is an instance of Opportunity that only too few people will grasp.

⁂ ⁂ ⁂

AS we have remarked on several occasions in these columns, competitions are one of the bug bears of the profession. They seldom turn out satisfactorily and are sure to be followed by complaints from disgruntled competitors. But notwithstanding their unpopularity a great many architects and draftsmen go into them hoping against hope that they will win a prize. The A. I. A. has done something to protect the entrant since competitions held under Institute rules usually provide that each contestant shall receive something in return for his efforts. Open competitions, where there is but one award and that a commission on the job if it should go ahead, are not so numerous as they used to be. But every now and then one crops up. If we are to believe the newspapers such a competition is about to be launched in San Jose.

⁂ ⁂ ⁂

THE Santa Clara County Supervisors have decided that the community is badly in need of a new jail. It is to replace a structure of Civil war vintage, which has been condemned. Two new buildings are needed for the jail group.

"Any architect," says the *San Jose Mercury*, "who desires to may submit plans for the two structures on or before August 1, 1932." Here is a copy of the Board's resolution on the subject and as we have had one unpleasant experience announcing a competition, we are not offering this as final or as official information to readers. If the thing interests you write to the Secretary of the Board of Supervisors of Santa Clara County, San Jose, for details. Here's the resolution:

"That the building committee of this board of supervisors select architects for a new jail for Santa Clara county and report the selection to this board.

THE THINKER

Back of the beating hammer
By which the steel is wrought,
Back of the workshops' clamor
The seeker may find the thought
The thought that is ever master
Of iron and steam and steel,
That rises above disaster
And tramples it under its heel!

The drudge may fret and tinker,
Or labor with lusty blows,
But back of him stands the thinker,
The clear-eyed man who knows;
For into each plow or saber,
Each piece and part and whole,
Must go the brains of Labor
Which gives the work a soul!

Back of the motor's humming,
Back of the belts that sing,
Back of the hammer's drumming,
Back of the cranes that swing,
There is an eye which scans them,
Watching through stress and strain,
There is a mind which plans them—
Back of the brawn, the brain!

Might of the roaring boiler,
Force of the engine's thrust,
Strength of the sweating toiler,
Greatly in these we trust,
But back of them stands the schemer,
The thinker who drives things through;
Back of the job—the dreamer,
Who's making the dream come true!

—By Breton Braley
—*in California Engineer*

⁂ ⁂ ⁂

"All architects must be directed to present the plans and specifications for said jail to this board on or before August 1, 1932, in order that said plans may be approved and the question of issuing bonds for constructing said jail be submitted to the voters of this county at the general election to be held in November of this year.

"And it is further ordered that any architect so selected will be paid for said plans and specifications *only* in the event that the plans and specifications presented by him are adopted by the board."

⁂ ⁂ ⁂

WE like the way Thomas S. Holden of the F. W. Dodge Corporation sums up the depression from the standpoint of the building industry. It is a true reflection of our troubles. To quote Mr. Holden:

"It is obvious that what the building industry is waiting for is the solution, sufficient, though not necessarily complete, of the problems of depressed real estate values, mortgage, foreclosures, and available financing which have been so much to the front in recent public discussions.

"In view of all these uncertainties the building industry is obliged to proceed at present like a man driving an automobile in a fog. His headlights will show him his road a few yards ahead; he can keep to the road and he can make progress slowly; he knows the road is under him and that some time the fog will lift. At present it is impossible to know when the fog will lift.

"To forecast a year ahead is impossible. The best one can do at this time is to assume that declining trends will continue. If at the end of the first quarter some of the fog has lifted, it may be possible to see more clearly what is ahead for the rest of the year."

⁂ ⁂ ⁂

A little old lady, stooped shouldered, her gray hair falling gently around her round black hat, sits unnoticed in a crowded auditorium. Around her are men and women, eager for the concert arranged by their church for this occasion.

In muffled voice they chat together, waiting for the program to open. And they do not notice that the little woman, sitting alone and quietly, has a small round disc of metal clamped to each ear.

At last the entertainers take their places on the platform. A few words of introduction and a male quartet breaks into the melodious strains of song. They are singing "The Holy City."

All eyes are fixed on the singers. And no one sees the smile that breaks over the face of the little woman as the notes reach her deafened ears. "Oh, God, how divine it is," she says to herself. "The first music I have heard in sixteen years."

Such joy as this is being brought to deafened men and women throughout San Francisco through the efforts of the San Francisco League for the Hard of Hearing, working in conjunction with the San Francisco Section, Council of Jewish Women and City and County Federation of Women's Clubs, in an intensive city-wide campaign to have scientific hearing aides installed in all public gathering places.

Already that campaign is bringing untold joy to scores of men and women who have been shut out from the pleasures of entertainment and the benefits of educational programs through impaired hearing. In a number of theaters, churches and other public places, these aides have been installed.

But those behind this movement are determined to continue their efforts until facilities for the deafened have been provided in as many meeting places as possible. They are urging architects and builders, designing churches, auditoriums, concert halls and the like to include in their plans provisions for wiring and equipping with hearing aide devices.

The committees make no specific recommendation as to the type of equipment desirable, there being several splendid systems on the market. But they do believe that architects should give thought to the deafened during the designing period as installations can be provided more effectively and cheaper if done at the time of construction.

Full information may be obtained at the headquarters of the San Francisco League for the Hard of Hearing at 1212 Market Street.

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* * * *

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THE ARCHITECT AND ENGINEER

FEBRUARY
1932

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VIEW FROM SOUTHEAST, EDMOND MEANY HOTEL, SEATTLE, WASHINGTON

R. C. REAMER, ARCHITECT

THE ARCHITECT AND ENGINEER

FEBRUARY 1932
VOLUME 108
NUMBER TWO

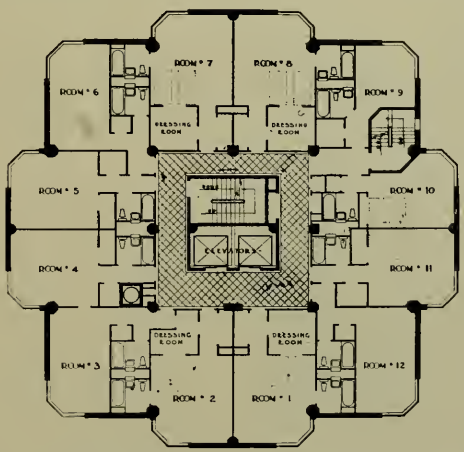
THE EDMOND MEANY HOTEL AT SEATTLE, WASHINGTON

by
R. C. REAMER,
Architect

THE growth, in the northeast quarter of Seattle and several miles removed from the business center of the city, of the University of Washington with an attendance now numbering about 7,500 students, the development of a considerable shopping district adjoining the University campus, together with the normal needs and requirements of this portion of the city, has led to the construction of the Edmond Meany Hotel which began operations on November 11, 1931.

The building is located at the corner of East 45th Street and Brooklyn Avenue. It is 115'x119' in plan at the base, from which rises a tower 80'x83' in overall dimensions. The total height is 18 stories or 188 feet from lowest floor at street grade to penthouse roof. Except for two steel columns and a connecting girder in the first story, it is of reinforced concrete frame and exterior throughout.

That usual and customary problem which confronts the architect: to provide a considerable amount of space and equipment with a limited amount of money was not absent in this case; indeed, the necessities were perhaps somewhat more urgent than usual. However that may be, the solution of the problem which was arrived at has been quite satisfactory to all concerned, and the completed building, as the accompanying views indicate, possesses dignity, interest and character.



PLAN OF TOWER, EDMOND MEANY HOTEL, SEATTLE, WASHINGTON
R. C. Reamer, Architect

The plan of the tower is deserving of consideration, since its arrange-

OUTLINE SPECIFICATIONS
Edmond Meany Hotel
Seattle, Wash.

Exterior:

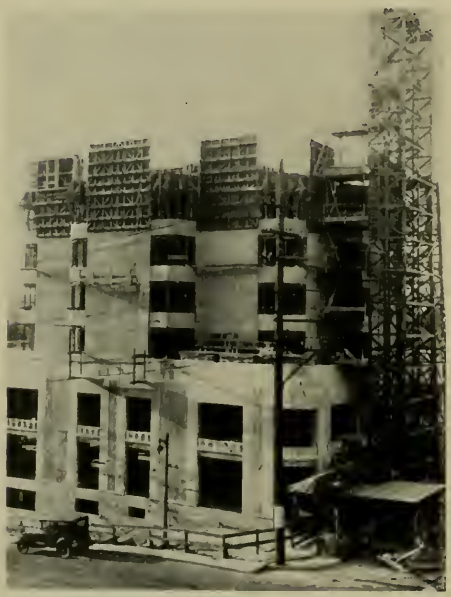
Walls are of exposed concrete; paneled in the lower two stories, fluted in the tower. The whole building is given a light grayish-tan color with two paint coats on the tower and three on the base. The tower spandrels are of concrete with smooth, plane surfaces of the same color as the walls. Fixed steel sash opening for cleaning only are used; sash is finished with aluminum paint.

Interior:

All walls are smooth plaster. Except in the public rooms and stairs, the floors are of concrete, carpeted; wood is used in the ballroom; terrazzo is used in the lounge and in the halls and stairs of the lower stories. Trim is mahogany in the public rooms; elsewhere, fir. A vacuum system of steam heating is employed. The ventilating system is a controlled one.

Cost and Construction:

Except for one steel girder and two steel columns, the building is entirely of reinforced concrete. Floors are of the long span one-way slab type; walls are of reinforced concrete. Total cost $600,000. Cubical contents—1,300,000 c. f.



CONSTRUCTION VIEW, EDMOND MEANY HOTEL, SEATTLE
R. C. Reamer, Architect

ments and dispositions of space worked out very happily. It will be observed that corridors, stairs, elevators, etc., are almost wholly confined to the central interior portion of the area, leaving the exterior entirely free for revenue-producing uses. The amount of space required for corridors is a minimum. The larger corner windows are particularly pleasing both for the breadth of sweeping views which they afford and for the effect of increased spaciousness they create in the rooms; part of the wide outside seems to be brought in and merged with the interior.

The use of concrete for the exterior conformed naturally with its application in the interior frame. The paneling in the lower walls was obtained by the use of wooden forms especially built for the purpose; the fluting of the tower was obtained with metal-lined wooden panels, one story in height, made up in sections, which were released and repeated for the full height of the tower. The simple ornaments on the terminal parapets exemplify in their easily obtained relief a characteristic concrete form which is susceptible of great architectural development.

The exterior walls are 12 inches thick and are reinforced on both inner and outer faces with the reinforcement so tied and connected together as to comply with building code requirements for reinforced concrete columns. It was thus possible to maintain the walls of constant thickness throughout the height of the tower despite the fact that they act in conjunction with the wall columns as structural sections carrying all tributary floor loads. Inasmuch as the length of these wall sections is short—18 feet to 20 feet—there appeared to be no possibility of shrinkage cracks developing; consequently the interior plaster was applied directly and without furring to the concrete, over an asphaltic coating sprayed on with a pneumatic gun. The possibility of condensation upon these inner plastered surfaces was considered, but with the heating and ventilating equipment provided there appeared no likelihood of its occurrence; moreover it was ascertained that in

another Seattle apartment five years old with concrete walls of the same thickness and to which likewise the plaster had been directly applied, no trouble of any kind had developed. One must recognize that with concrete anticipations are not always realized with the same facility that advertise-

uniform when the forms were removed. Very little patching was necessary.

The window spandrel and the first story wall forms on the street fronts were lined with fiber board and the narrow fluting on the spandrels was obtained by vertical strips placed on the fiber board. The struc-

BROOKLYN AVENUE FACADE, EDMOND MEANY HOTEL, SEATTLE, WASHINGTON
R. C. Reamer, Architect

ments are written; nevertheless one must also recognize that many of the shortcomings blamed upon concrete are not inherent in the material but are inherent in inadequate supervision and careless workmanship. In pouring the walls of this building the contractors employed a full force of rodders, each man being assigned a definite section for which he was made personally responsible. The importance of his work was explained to him as was also the further fact that continued employment depended upon his concrete being dense and

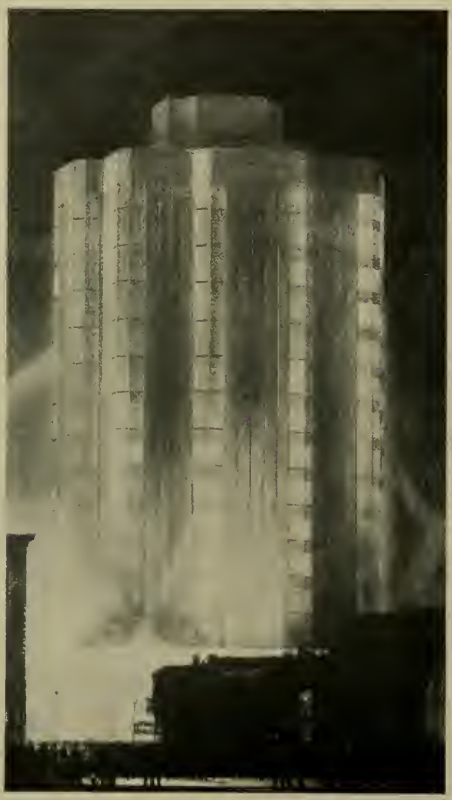
tural adaptability of concrete is well illustrated in these spandrels.

The metal sash are finished with an aluminum paint and are in harmonious contrast with the light grayish-tan of the building, which color was obtained with two paint coats on the tower and three on the base. Following the application of the second coat to the base and before it had dried, a fine sand was dusted onto the surface. This was covered by the third coat. A

very slight difference of color and of texture between base and tower is thus effected.

It usually happens that upon the completion of a building the architect's work is ended and the interior decorating is placed in other hands. In this case however the architect continued in close contact with affairs until the hotel was put in operation, and it was possible to work out interiors which are characterized by simplicity of form and the predominance of plane surfaces, by the very limited amount of molded ornament used, and by reliance almost entirely upon color, in contrasting tone or in patterned design, for the achievement of effects of warmth and comfort.

The building was constructed by Teufel and Carlson, contractors. The total cost in round figures was $600,000. This is for everything except furnishings and kitchen equipment. The cubical contents are 1,300,000 cubic feet.



ARCHITECTS PERSPECTIVE, EDMOND MEANY HOTEL, SEATTLE, WASHINGTON
R. C. Reamer, Architect

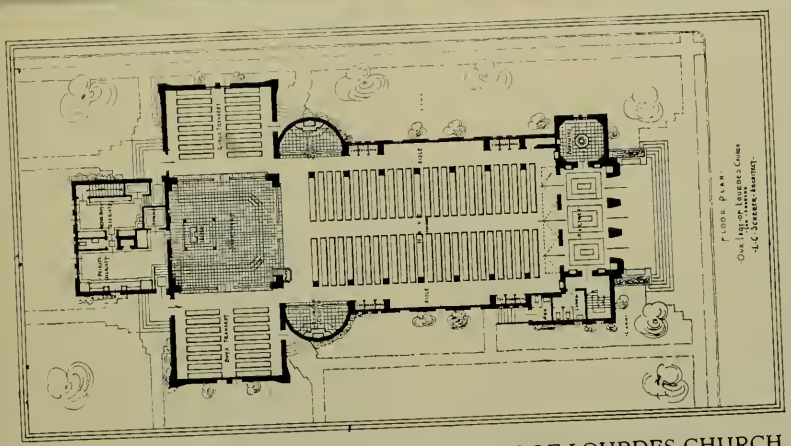
Photo by Morgan

VIEW FROM NORTHEAST, EDMOND MEANY HOTEL
SEATTLE, WASHINGTON
R. C. REAMER, ARCHITECT

Photo by Morgan

THE TOWER (A STUDY IN VERTICAL LINES)
EDMOND MEANY HOTEL, SEATTLE, WASHINGTON
R. C. REAMER, ARCHITECT

OUR LADY OF LOURDES CHURCH,
LOS ANGELES, CALIFORNIA
L. G. SCHERER, ARCHITECT



DETAIL AND PLAN, OUR LADY OF LOURDES CHURCH, LOS ANGELES, CALIFORNIA
L. G. SCHERER, ARCHITECT

MEDITERRANEAN ARCHITECTURE IN BERKELEY STATE BUILDING

by
FREDERICK HAMILTON

TWO buildings of outstanding interest in architectural design recently have been completed by the Department of Public Works, State of California. The plans were prepared by the Division of Architecture, George B. McDougall, State Architect. It is encouraging to note the trend of our State architects to improve upon the architecture of State institutional buildings, adopting a style that is in keeping with climatic conditions and natural environment.

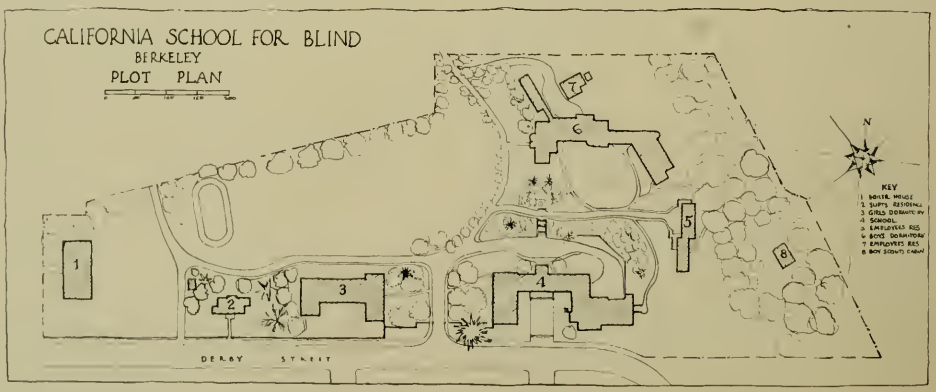
TOWER, CALIFORNIA SCHOOL FOR BLIND, BERKELEY
George B. McDougall, State Architect

The plot plan of the State Institution for the Deaf and Blind at Berkeley, shows how well the Department has studied present and future needs of this growing school. Eventually all of the old buildings will be replaced with structures that harmonize with one another.

The study building, which is illustrated here, is done in the Mediterranean or early California style, with cement walls stuccoed white and red tile roof. The Berkeley institution is not an asylum, home or hospital, but is for the mental development of blind children exclusively. Children are eligible, provided their homes are in the State of California. They must be totally blind or their vision so dim as to prevent them from being taught in the public schools.

The present facilities of this institution comprise a girls' dormitory, erected in 1925; a boys' dormitory, erected in 1930; a school building, erected in 1927 and added to in 1931; employees' cottages built in 1931; Superintendent's residence; power plant; and miscellaneous structures. With the completion of an additional unit, the school will have reached its ultimate development.

BOYS' DORMITORY AND DINING HALL,
CALIFORNIA SCHOOL FOR BLIND, BERKELEY
George B. McDougall, State Architect



PLOT PLAN, CALIFORNIA SCHOOL FOR THE BLIND,
BERKELEY, CALIFORNIA
George B. McDougall, State Architect

DUPLEX COTTAGE FOR TEACHERS AND ATTENDANTS, CALIFORNIA SCHOOL FOR THE BLIND, BERKELEY
George B. McDougall, State Architect

The boys' dormitory has separate wings for the younger and the older boys and also houses, play rooms, study rooms and the kitchen and dining hall. Access from floor to floor is by means of ramps.

A girls' dormitory provides similar facilities.

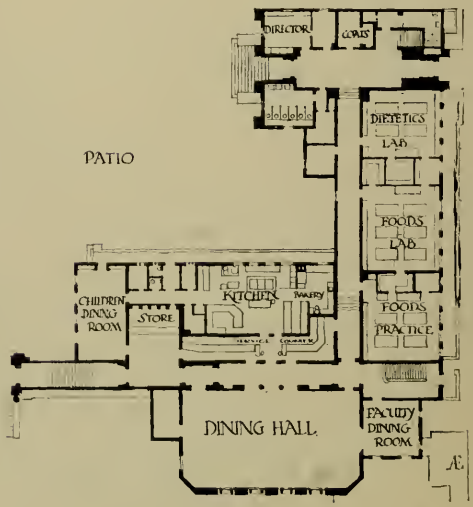
The study building has thirteen class rooms, twelve music study rooms, a printing shop, room for manual training, basket weaving, sewing and a library for braille books. The administrative offices and the assembly room, seating three hundred, are also in this building.

Ebbett's Hall of Domestic Science is the latest addition to the Santa Barbara State Teachers College. It is built of reinforced concrete, with concrete floors, tile partitions, stucco exterior and cast stone ornamentations. This building houses home economics laboratories, dining hall, faculty dining room, children's dining room, kitchen, departmental administrative offices, and a model bungalow, which is on the lower floor. An interesting terrace over the dining hall is used for dining and social functions and commands a sweeping view of the Pacific Ocean.

* * *

Plans for these buildings were prepared by the State Divisions of Architecture, George B. McDougall, State Architect, with P. T. Poage in charge. W. K. Daniels, Deputy Chief; C. H. Kromer in charge of structural engineering; W. H. Rockingham, Mechanical Engineer; Carlton Pierson, Specifications; H. W. DeHaven, Chief Draftsman; G. N. Bergren, Superintendent of Construction. The buildings illustrated were designed by Alfred Eichler.

EBBETT HALL OF DOMESTIC SCIENCE, STATE TEACHERS COLLEGE, SANTA BARBARA
George B. McDougall, State Architect

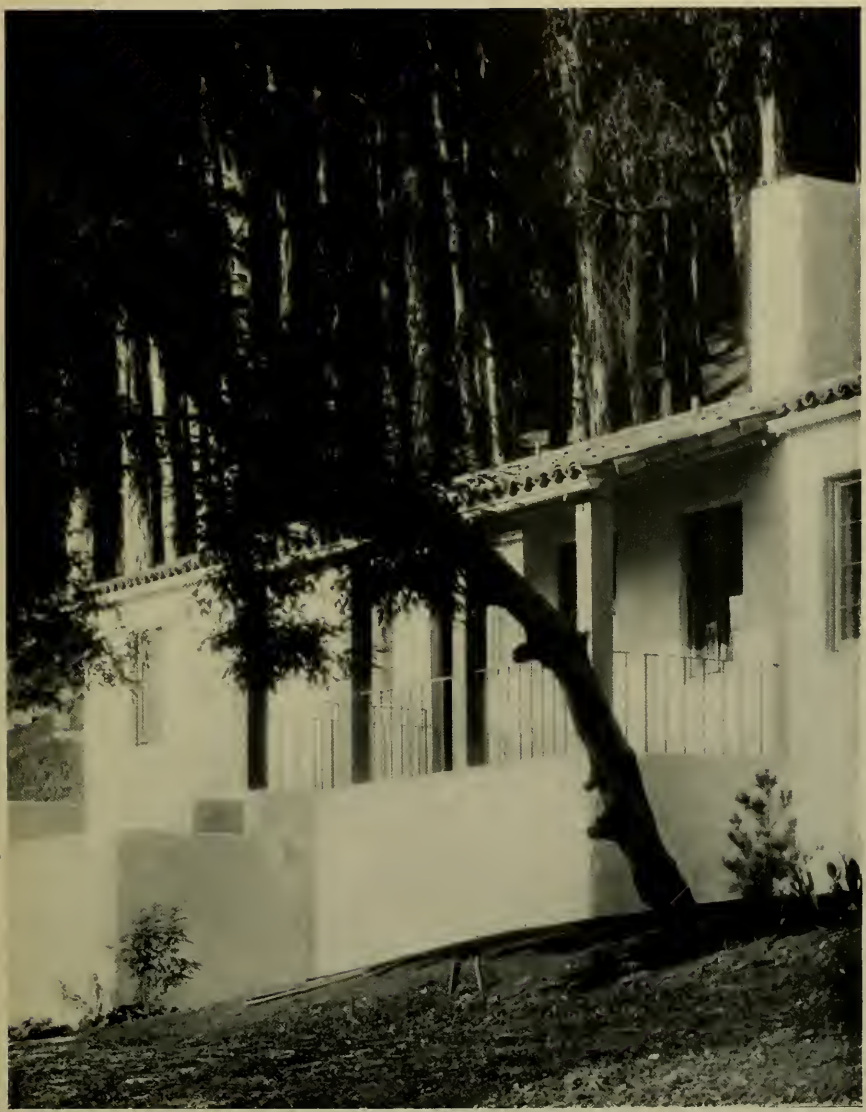


PLAN, MAIN FLOOR, EBBETT HALL OF DOMESTIC SCIENCE, STATE TEACHERS COLLEGE, SANTA BARBARA
George B. McDougall, State Architect

Tile Roof by N. Clark & Son

CALIFORNIA SCHOOL FOR BLIND, BERKELEY

GEORGE B. McDOUGALL, STATE ARCHITECT



DUPLEX COTTAGE FOR TEACHERS AND ATTENDANTS,
CALIFORNIA SCHOOL FOR THE BLIND, BERKELEY
GEORGE B. McDOUGALL, STATE ARCHITECT

ENTRANCE, EBBETT HALL OF DOMESTIC SCIENCE, STATE TEACHERS COLLEGE, SANTA BARBARA
GEORGE B. McDOUGALL, STATE ARCHITECT

Photo by Moulin

ENTRANCE TO BUILDING FOR COAST COUNTIES GAS & ELECTRIC COMPANY, WATSONVILLE
ALBERT F. ROLLER, ARCHITECT

OFFICE BUILDING

Watsonville, California

for

COAST COUNTIES GAS & ELECTRIC COMPANY

Albert F. Roller, Architect

FIREPLACE, BUILDING FOR COAST COUNTIES GAS & ELECTRIC COMPANY
Albert F. Roller, Architect

Photo by Moulin

BUILDING FOR COAST COUNTIES GAS & ELECTRIC COMPANY, WATSONVILLE, CALIFORNIA
Albert F. Roller, Architect

GROUND PLAN, BUILDING FOR
COAST COUNTIES GAS & ELECTRIC COMPANY, WATSONVILLE
Albert F. Roller, Architect

Photo by Moulin

BUILDING FOR COAST COUNTIES GAS & ELECTRIC COMPANY, WATSONVILLE, CALIFORNIA
Albert F. Roller, Architect

THE new office building of the Coast Counties Gas and Electric Company at Watsonville, California, has been designed to reflect the trek of the Padres through this wonderfully fertile and romantic Pajaro Valley. The Spanish motif has been handled by Mr. Roller, the architect, with fine appreciation of the Latin School. The low, rambling character of the building gives it a feeling of friendly approach quite different from the usual commercial structure. It admirably fulfills the requirements of a public service corporation to whose offices most of the population of Watsonville and its environs must come at least once a month. In addition to the business offices in this building are located the sales' rooms for merchandise display.

The building is constructed of reinforced concrete with exterior walls finished in a Latin texture relieved by a buff sandstone trim around the arches as a base for the tower section. Hand made Barcelona roof-

OUTLINE SPECIFICATIONS

The Problem—

The Spanish character of the building was decided upon as being most appropriate and consistent with the community's earlier history. The nature of occupancy demanded an expensive electrical installation for an unusually heavy load. The ranges and other appliances displayed on the sales floor and in the model kitchens are all connected and ready for demonstration. In addition, the building is completely flood lighted. This fact increased the cost approximately .03c per cu, ft.

Exterior—

The walls are of concrete—plastered in a Latin texture. The windows are metal throughout. The stone trim and steps are buff sandstone from the Stanford quarries. The roofs are Barcelona tile heavily overlaid. The wrought iron work is salt water rusted and left unpainted.

Interior—

The floors and bases are quarry tile throughout laid irregularly. The walls are stucco on metal lath and furring, Latin textured and glazed. The concrete roof slabs, beams and trusses are exposed and the rough surfaces produced with sandblasted matched forms are acid stained and heavily stenciled in bright colors. Toilet rooms have tile floors and wainscots. The building is heated by a gas fired warm air furnace with air washer and fan.

Cost and Construction—

The building has reinforced concrete floors, walls and roofs. A basement for the mechanical and electrical equipment has been provided with a membrane. Total cost exclusive of furnishings, landscaping or roadways was .55c per cu. ft.

Photo by Moulin

DISPLAY ROOM, COAST COUNTIES GAS & ELECTRIC COMPANY, WATSONVILLE, CALIFORNIA
Albert F. Roller, Architect

ing tile lends an effective touch to the Mediterranean atmosphere.

The Spanish feeling is carried out throughout the interior with exposed concrete beams and trusses stained and stencilled in bright colors. The walls are stuccoed, textured and glazed. Floors and bases are a quarry tile laid in irregular fashion.

One of the problems in designing the building was to provide for an extensive display on the sales' floor of modern kitchen and heating equipment. This necessitated special provision for both electrical power and gas. The mechanical equipment is located in a model furnace room in the basement. The two main display windows not only serve their purpose for advertising but add to the general character and appearance of the structure.

The building covers an area of 73'x100' "L" shaped, and was completed at an approximate cost of $50,000. Wm. Radtke of Gilroy was the general contractor.

FINDINGS OF PRESIDENT HOOVER'S CONFERENCE ON HOME BUILDING

by
Dr. RAY LYMAN WILBUR

SINCE our contemporary problems have so largely grown out of lack of foresight and of proper regard for the public interest, the necessity of judicious and well-conceived planning of cities and of their outlying areas throughout the metropolitan region is indicated as a first essential for the correction of old evils and the prevention of new. Such planning involves a thorough understanding of human needs and of the nature of the public interests involved. It requires a knowledge of trends in urban developments and a vision of a city which will be a source of inspiration and pride to its citizens as well as an efficient center for interests of commercial, industrial or civic nature. The layout of streets, blocks, lots, utilities, transit systems, parkways, playgrounds and centers for business, industry or civic affairs should be conceived in such a way as to render homes accessible to places of work or recreation on the one hand while protecting them from the confusion and bustle of industry and the dangers of through traffic on the other. Careful attention to planning and the layout of new subdivisions will make possible the most desirable type of setting and approach for each home and will at the same time make reasonable the charges for land, utilities and other services which under haphazard development may prove too heavy for the home owner of modest means.

By zoning of new areas and the rezoning where necessary of old, it is possible to protect homes from undesirable neighbors and land values from instability. Areas for industry and commerce, as well as for residence, should be carefully delineated but in a way which will make the neighborhood store accessible for service but not a neighborhood nuisance.

The free standing dwelling can be protected from the invasion of the multi-family dwelling or apartment house and the charm and integrity of each neighborhood unit may be preserved. Carefully drawn provisions for set-back of homes and definite requirements of specific and adequate reservations of land about each dwelling may preserve a beauty in residential neighborhoods which otherwise would be lost under conditions of unwise and reckless land subdivision.

The further construction of flimsy houses of an uninteresting or even ugly design is not necessary. Beauty is not a veneer to be applied at added cost but lies rather in the lines of a house, its proportions, the relations of its parts one to another and of the whole to its setting. A one-room log cabin may be a thing of beauty. Professional pride and responsibility on the part of architects and carefully drawn programs to elicit by joint counsel the cooperation of contractors and builders, the manufacturers and distributors of material, the realtor and subdivider, may produce a radical change in the quality of the small home that is the result of mass production, while careful programs for the education of the taste of the home buyer may create an intelligent demand for good design and

workmanship on the part of the home buyer. It is demonstrable that quality pays, both by endearing the home to the family and by the enchancement of property and community values.

Through the use of proper materials and processes and through mass production, and stabilized, year-round construction, better homes may be produced at less cost than is at present paid for homes that rapidly deteriorate. The development of pride in workmanship and of high standards on the part of producers of materials and builders of homes can bring good new housing within the reach of a much larger buying public than is at present served and will at the same time serve all customers better.

The stability and safety of the Nation require the well-advised development of individuality owned homes. The first necessity for the promotion of well-advised home ownership is a system of home financing, adequate in amount and operated in the public interest so as to permit thrifty people to secure for themselves such a home. It should be possible for every thrifty and honest family at the proper time not only to own its home but also to secure disinterested and competent advice on all matters relating to such ownership. Home information centers accessible to families in need of such advice and wise in their counsel are therefore desirable.

Any thrifty family in city or country should be able to borrow money at a reasonable rate of interest with a reasonably long period of amortization under adequate protection from unreasonable foreclosure. The system for the financing of homes should be so organized that the interests of the home purchaser, the lender and the general public will all be amply protected. Some device for the better mobilization of home financing credit and to rend it more fluid, for the protection of lending institutions in times of depression, and to further facilitate sound home ownership at all times, is clearly needed.

Since the majority of families are now living in old houses far from convenient or comfortable in their planning or equipment, and far from modern in their sanitation, it is necessary that such advice and skilled service should be available as to make it possible for each family to discover what should be the next steps in the improvement of its own home and the most efficient ways of going about its repair or extensive remodeling and modernizing. Since incomes limit the amount that may be expended on home improvement it should be borne in mind that no excuse lies therein for inaction. Landlords can be helped to see their responsibility and can contribute greatly to the quality of homes at relatively slight expenditure. Home owners and tenants whose incomes are small may still make improvements by their own personal labor during such moments as they may find free for this type of work and bit by bit bring about changes that rid the home, one by one, of its inconveniences and sources of irritation, and render it a wholesome and attractive environment and a source of family interest and pride.

Since public neglect and a variety of other causes have produced blighted areas and slums in our cities which have become an economic liability and where conditions of living have become a social menace, the need is clearly indicated for measures which go beyond the home dweller to the community and which may involve complete demolition in case reconditioning of individual dwellings should not prove feasible. Unless this problem can be met by private enterprise there should be public participation at least to the extent of the exercise of the power of eminent domain. If the interest of business groups can not be aroused to the point where they will work out a satisfactory solution of the problem through adequate measures for equity financing and large scale operations, a further exercise of some form of governmental powers may be necessary in order to prevent these slums from resulting in serious detriment to the health and character of our citizens.

A basic evil in bad housing is land overcrowding. One of the most fundamental ways of reaching this problem is through broad policies for the decentralization of

industry with provision for the re-housing of industrial laborers' families in the new industrial communities in individual private dwellings. To accomplish this it is necessary to distinguish among the many industries and businesses those for which such re-location is most desirable and to see that those factors which now block such decentralization are brought properly under control. This may involve special study on the freight rate structure and special measures to eliminate the factors which now penalize desirable movement of industry.

In view of the economies which should be available to each dwelling unit in large scale operations, needless obstructions in the form of restrictive legislation, in appropriate taxation and difficulties in securing adequate financial underwriting should receive such attention by business groups and public agencies as will remove all needless handicaps upon the provision of good housing through mass production for the lower income groups. It should be wholly possible to do this in a manner which will protect all public interests involved and at the same time release financial resources, business acumen and social vision for housing operations of a type and quality that will attract sound, conservative investment into this field in which the human needs are so great. To this end the leading business groups of our cities making use of the best available advice and collective experience can make a contribution vastly greater than that which now characterizes business efforts in the field of housing for the lower income groups.

Existing practices in the assessment of real property and in the levying of taxes upon dwellings, especially those of the single family house type, have resulted in such heavy and inequitable burdens that home ownership has been discouraged. The need is apparent for methods of assessment which will not penalize the small home owner in comparison with the apartment dweller or the business or industrial plant, and for forms of taxation which will not penalize or discourage improvement in homes already built. A program based upon thorough study of this subject is indicated as desirable in the large majority of our cities and states, as well as in rural districts, and alternative methods of raising public revenue should in each instance be considered with reference to their relative equity and their merit from the fiscal point of view.

Furniture of good design and of sturdy, durable construction can be made available at prices not greater than are now paid for the ugly and flimsy furniture at present so widely sold. To solve the problem of making good furniture accessible to families of modest income there will be needed cooperation on the part of the various professional, manufacturing and trade groups involved. They have an opportunity out of their professional knowledge, experience and resources to make a contribution which will have a marked effect upon the lives and happiness of millions of families.

Similarly the professions and trades involved in the landscape planning and planting of home yards and gardens and in the provision of the accessories for children's play have an opportunity through cooperative study and action to bring charm in residential neighborhoods and the joys of outdoor living within the reach of all families irrespective of their income.

Needless drudgery due to imperfect and inadequate equipment or to serious lack of equipment is found in the homes of millions of rural families. Though richly endowed in natural setting, the farm home may fail to enjoy some or all of the facilities which modern science and invention have brought within the reach of urban populations. Ignorance, imperfect trade organization, low incomes and many other factors may contribute individually or collectively to this end. Systematic educational programs, universal provision of home demonstration services, general cooperation of civic leaders in rural communities in better homes demonstrations, increase of facilities for extension training and demonstration of equipment and utilities appropriate to the rural home and cooperation of trade organizations and power companies and of public departments, can be made rapidly to overcome these deficiencies and bring conveni-

ence, comfort and safety within the reach of ever-expanding circles of rural life.

Needless fatigue and waste motion and restricted leisure are the result of haphazard or inappropriate planning and equipment of the work centers of the home. The cooperation of home economists, architects and engineers is essential for more efficient planning which may result in the elimination of needless burdens. Better organization of household activities requires study and help from competent centers of advice and experimentation. The objectives of home and family life must be considered at every step in the process so that there will be a maximum opportunity for the fulfillment of interests and well-rounded development of each member of the household.

The present laws are often hampering to new types of construction. States and cities profit little by one another's experience. The effects of existing legislation and enforcement have been inadequately studied. Greater uniformity, once adequate standards and objectives for legislation have been devised, would be desirable with due reference to local adaptations where necessary. The factors which interfere with effective enforcement of well-framed legislation need constant study which should lead to constructive cooperation by the public's representatives with the officials charged with the enforcement of the law. No law is self-enforcing, and it is only through the exercise of the rights of citizenship that the most desirable types of administration can be achieved. Although a large part of the problem of housing is to be met by study and education, high minimum standards can be achieved only by legislation that is based upon scientific study free from inequities and discrimination and administered with a view to eliminating those evil factors in the home environment which may interfere in any way with individual development.

SMALL CALIFORNIA HOUSE FIRST CHOICE IN VOTE AT OAKLAND EXHIBIT

First Publication of Plan and Photographs of The F. L. Confer Cottage

This small ranch house was awarded first honors by public vote at the recent Small House Exhibition held in Oakland. The owner of the house is Mrs. F. L. Confer and the architect, Edwin L. Snyder, of Berkeley. The house typifies early California architecture. An English brick house, also by Mr. Snyder, was tied for second place as the public's choice with an English house by W. E. Schirmer, of Oakland.

PLAN, SMALL CALIFORNIA HOUSE FOR MRS. F. L. CONFER, BERKELEY
Edwin N. Snyder, Architect

SMALL CALIFORNIA HOUSE FOR
MRS. F. L. CONFER, BERKELEY
EDWIN L. SNYDER, ARCHITECT

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SMALL CALIFORNIA HOUSE FOR
MRS. F. L. CONFER, BERKELEY
EDWIN L. SNYDER, ARCHITECT

GETTING THE MOST FROM ACOUSTICS

by
VERN O. KNUDSEN,
Ph. D.

Architectural acoustics is beginning to receive the attention it has long deserved. The past ten years have been characterized not only by a remarkable growth in the scientific and technologic aspects of the subject but also by success in the construction of buildings which have been designed in accordance with the newer knowledge of architectural acoustics. The outcome in most of these buildings has been highly satisfactory, while in a few others it has been disappointing. This is typical of nearly all new developments in technology; and it is attributable in the main to an insufficient knowledge of the subject, to an imprudent choice of materials, and to an inadequate supervision of construction. Failures in the acoustics of buildings are becoming fewer each year, and when the architect becomes familiar with the technique of coping with acoustical problems he need have no anxiety with regard to the outcome of the acoustics of the buildings he designs—the outcome can be determined quantitatively in advance of construction, and it will be possible to design and construct buildings which will satisfy the most rigorous requirements for good acoustics.

UNTIL recently, architectural acoustics was regarded almost wholly as a problem of form, or of correct proportions. During the past thirty years, especially in this country, it has been regarded almost wholly as a problem of materials—especially of acoustical materials which are endowed with the power of absorbing noise, reducing reverberation and suppressing echoes. But if we are to get the most and the best from acoustics—and we should be content with no less—we have to cope with a problem that involves both form and materials, a problem that begins with the first concepts of the building, that continues through the planning and construction, and that ends with the furnishing and final testing of the building. Architectural acoustics has become an exact science, and at present is passing through an inevitable transition from the domain of science to the domain of technology. Unusual care must be exercised by the architect during this transitional state. He must do more than follow the traditions and principles which he acquired ten or twenty years ago in his formal education. He must do more than specify certain acoustical materials for the ceilings or other portions of the buildings he designs. He should not be guided solely by the recommendations of the manufacturer's "engineer," although it must be acknowledged that these engineers have contributed largely to the acoustical success of many buildings, and their services in many respects are indispensable during the present phase of transition.

But it is highly probable that very soon the architect, or his consulting engineer, must assume the responsibility for acoustics. This responsibility, the writer believes, will relate to the following: (1) the selection of the site; (2) the making of a noise survey in the proximity of the proposed site; (3) the selection of a general type of wall and ceiling construction which adequately will insulate the building against the external noise and vibration; (4) the selection and arrangement of rooms which require acoustical designing; (5) the de-

sign of the rough sketches for all speech and music rooms, based on the requirements for the proper distribution of sound; (6) the application of precise formulas and principles to the detailed design of shape, sound-insulation and sound-absorption for all rooms which require acoustical designing; (7) the selection of materials which will satisfy the acoustical, structural, decorative and economic requirements; (8) the supervision of all aspects of construction which affect the outcome in acoustics, and especially the making of tests on such materials as acoustical plaster; and (9) the testing of the completed building with regard to the distribution of sound, the optional conditions of reverberation and the adequacy of sound-insulation.

It is beyond the scope of this paper to give a detailed description of all of these factors which concern the acoustics of buildings[1], but a few of the most important factors will be considered briefly in the following paragraphs.

The selection of the site for a building is often made without the advice of the architect, but whenever the architect is consulted he should take into account the desirability of the site from the standpoint of the probable amount of noise in the vicinity of the site and the type of structure which will be required to shut out this noise. For example, in the selection of a site for a school building, the proximity to the homes of the students and transportation lines are of course the most important considerations, but it often happens that such considerations alone will fix the location of the site near the intersection of trolley lines, and although such a site may prove to be a convenient one, it nearly always will be a very noisy one. It would certainly be in the interest of the function of the schoolroom to locate the building sufficiently far from transportation lines to insure a reasonable degree of freedom from noise. Thus, if the school building be located approximately one block away from noisy traffic arteries, it will still be in close proximity to transportation lines and at the same time will be far enough away from the noise to insure the possibility of insulating against the outside noise without resorting to prohibitively expensive structures for sound-insulation. Many existing sites for school buildings and other auditoriums are wholly unadapted for such buildings simply because the required economy in construction cannot provide insulation against the outside noise.

The proposed site for every school building, theater, church, or for any auditorium which is to be used for speech or music, should be given a noise survey preliminary to the designing of the building. Suitable noise meters for making such surveys are now manufactured by a number of concerns, and a competent acoustical engineer is qualified to make such a survey. Such a survey should extend over a period of at least twenty-four hours, and should include measurements not only of noises in the immediate vicinity of the site but also of noises which may be anticipated in the future. Such a noise survey will indicate the extent of insulation which will be required to protect the rooms in the building against noise from outside. If the site is a quiet one no extraordinary precautions will be necessary in the design of the building. On the other hand, if there is considerable noise in the vicinity of the site, as is likely to be the case in most urban communities, special types of construction will be necessary to provide an adequate amount of sound-insulation. For example, if a noise survey at a certain site should show that the noise level is of the order of 60 db, and if a noise level of 15 db is the limit of noise that can be tolerated in the building, then it is necessary to design the building in such a manner as will provide an insulation against outside noise of about 45 db.

It often happens that the problem of sound-insulation will be greatly facilitated by the proper arrangement of buildings on the site, or the arrangement of rooms within the building. For example, in the case of a school site, the auditorium should be located in a particularly quiet section of the site. It should be set back at least 100 feet from a quiet side street and at least 300 feet from a busy boulevard or trolley line.

[1]The writer has in press a book on Architectural Acoustics which considers all of these factors in detail. John Wiley and Sons, Inc. (1932).

If the auditorium is a part of another building it should be thoroughly insulated from surrounding corridors and adjacent rooms. The athletic field and playground, the gymnasium and the music room, should be far removed from the auditorium. The location of the different rooms within each building often can be arranged in such a manner as to avoid noise interference between different rooms. It would not be advisable, for example, to have the music room adjacent to the oral English room or to have either of these rooms near the gymnasium. It is obvious therefore that careful planning in regard to the location of the buildings on the site, and the location of the rooms within each building, will help materially in the solution of the sound-insulation problem.

The calculation of the required amount of sound-insulation for rooms and buildings can be done by means of a simple formula, namely,

Noise reduction factor $= 10 \log_{10} \frac{a}{T}$ . . (1)

where a represents the total absorption in the room, which is obtained by adding the products of the areas of the different boundary materials in the room by the corresponding coefficients of sound-absorption for these materials; and T represents the total transmission of sound into the room, and is obtained by adding the products of the areas of the different boundary materials of the room by their corresponding coefficients of transmission for these materials.[2] Eq. (1) will then give the total reduction of noise (in dicibels) provided by the boundaries of the room and the absorptive material in the room.

During the early stages of the design of a building it is necessary to determine which rooms in the building will require acoustical designing. In general, all speech and music rooms, all public and private offices, all rooms in which people gather or work, and all rooms in which there are noises which may be disturbing in other rooms, should be studied with respect to acoustics. There are indeed few, if any, rooms in public, religious, educational, commercial and residential buildings which will not be made better by proper acoustical treatment. Each room, or each type of room, should be studied individually, although it may be possible to adopt uniform types of structure and uniform acoustical materials in all of the rooms in a building.

The requirements for acoustics should figure prominently in determining the size and shape of auditoriums. The size of the auditorium should be kept as small as possible so as to favor an increase in the loudness of the speech which reaches the auditors. It is advisable to keep the volume of a legitimate theater below about 200,000 cubic feet, and the volume of a school auditorium below about 400,000 cubic feet (and even much smaller than this in the case of auditoriums for elementary and junior high schools). The average loudness of speech in a large auditorium is at a critically low level, and consequently any extension in the size of the auditorium will involve a sacrifice in the acoustical quality of the auditorium. The ceiling and side walls of an auditorium, and especially the ceiling and wall surfaces near the stage, should be designed to act as sounding boards to reflect and reinforce sound reaching the auditors and especially those auditors in the more remote parts of the auditorium. The seats, especially on the main floor, should be elevated in such a manner as will provide good *audition* lines as well as good *sight* lines for all auditors. Openings under the balcony should be high and the balcony recesses should be shallow so that an adequate amount of sound energy will reach those auditors who are sitting in the rear seats under the balcony. Concave surfaces which produce focusing of sound in certain parts of the auditorium should be avoided. A fault which is common to many auditoriums is attributable to a concave rear wall which has a center of curvature on or near the stage. In such cases there is nearly always a pronounced echo on the stage and in some cases the auditors in the front part of the orchestra are disturbed by this echo. The rear wall should be plane rather than concave, and should be broken by means of doors, pilasters, or other irregularities in

[2] V. O. Knudsen, "Measurement and Calculation of Sound-Insulation," Jour. Acous. Soc., 2, 129-140, (July, 1930). Typical calculations for a room are given in this paper.

shape which will break up regular reflections from this surface. The ceiling should articulate with the walls by means of suitable coves. These coves should be designed in such a manner as to prevent the reflection of sound back toward the stage, but to direct the reflected sound to the rear seats.

After the required steps have been taken to eliminate noise and to design an *acoustical* shape for the auditorium, a most careful study should be given to the problem of reverberation. It is necessary to consider the reverberation time not only at a frequency of 512 cycles but also at lower and higher frequencies. Calculations of reverberation should be made at 128, 512 and 2048 cycles. The curves shown in Fig. 1 give what the writer considers to be the optimal reverberation characteristics for rooms which are to be used for both speech and music. If the room is to be used for music only, the reverberation times should be about ten to twenty per cent longer than those given by the curves, and if the room

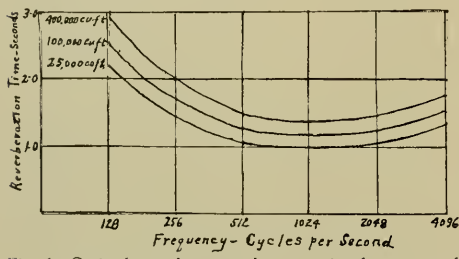


Fig. 1—Optimal reverberation characteristics for rooms of different size which are to be used for both speaking and music.

is to be used for speech only, the reverberation times should be about ten per cent lower than those indicated by the curves. In order to obtain the proper reverberation characteristic at all frequencies it is necessary therefore to select materials which have appropriate coefficients of sound-absorption at frequencies of say 128, 512 and 2048 cycles. In general, materials should be selected which have their highest absorptivity for frequencies between about 512 and 1024 cycles, which are about one-half as absorptive at 128 cycles as 512 cycles, and which are somewhat less abhalf as absorptive at 128 cycles as 512 cycles. The reverberation times in the room should be calculated by means of the formula

$$t = \frac{.05\ V}{-S \log a\ (1-a)}$$

where t represents the time of reverberation, V the volume of the room in cubic feet, S the interior surface of the room in square feet, and a the average coefficient of sound-absorption of the materials which form the inner boundaries of the room. The absorptive materials should not be concentrated in one part of the auditorium, but should be distributed in such a manner as will make the reverberation uniform in all directions and in all parts of the auditorium.

In selecting the acoustical materials for the interior of a room a number of factors must be considered, such as the following: (1) absorption coefficients at low, medium and high frequencies, (2) appearance and means of decoration and maintenance, (3) structural strength, (4) sound-insulation, (5) heat-insulation, and (6) light reflection. Most of these desired characteristics are incorporated in many of the acoustical tiles which are now manufactured by well known acoustical concerns. But in many instances the architect wishes to use acoustical plaster and not all acoustical plasters are satisfactory with respect to all of the above-named factors. Consequently, the selection and use of acoustical plaster must be guided by a thorough knowledge of properties of several types of plaster.

There are two outstanding characteristics that acoustical plasters should possess: (1) the capacity to absorb sound and (2) the power to stop sound.[3] These two characteristics are not closely related. In fact, they probably are so diverse that it will be impossible to develop both characteristics in the same plaster. But the capacity to absorb sound certainly can be built into plasters which may serve as the finish coat, and the capacity to stop or insulate sound probably can be built into plasters which may serve as the scratch and brown coats. In general, the scratch and brown plaster should be dense and somewhat yielding so that it will offer a

high mass reaction to sound and be free from diaphram action. The finish coat should be at least one-half inch thick, should be very porous, and the pores should be small and continuous. Already plasters are available which will absorb at least twenty times more sound than will ordinary hard plastered walls. And at the same time many of these plasters will meet the other requirements specified above; namely, they will withstand abrasion, they have tensile strengths in excess of fifty pounds per square foot, the light reflection (depending upon the color) can be made as high as sixty or seventy per cent, they may be decorated or washed by standard methods, and in fact will meet all of the requirements for a permanent building material—requirements which only a year ago were thought to be impossible of fulfillment.

The public, and some times the architect, may have questions in their minds concerning the value of acoustical materials in rooms. They want to know just what difference it will make in a room. For one thing, the proper use of acoustical materials in an office or a work room will reduce the intensity of the noise in that room about eight or ten fold, whether the noise originates inside or outside of the room. Such a reduction of noise will contribute beneficially to the comfort and working efficiency of the room, and will place a premium on the rental value of the room. The use of these acoustical materials in a room will reduce the reverberation so that one will have no difficulty in hearing or in being heard over the telephone; dictation will be made easier and will be free from errors in the recognition of the sounds of speech which are so frequent and annoying in reverberant rooms; and conversations or conferences will proceed without the participants failing to hear what is said. To be more precise, if 1000 meaningless speech syllables were called out in an ordinary room treated with hard plastered walls and ceiling, and with a hard surfaced floor, only about 600 of the 1000 speech syllables would be heard correctly. If the walls and ceiling of this same room were treated with suitable acoustical materials, about 940 of the 1000 speech syllables would be heard correctly. In other words the use of proper acoustical materials in such a room will increase the speech articulation from 60 to 94 per cent; and when it is realized that an articulation of 75 per cent is necessary for barely satisfactory hearing it will be recognized that the absorptive materials have performed almost an acoustical miracle.

The degree of absorption obtained from an installation of acoustical plaster is dependent, among other things, upon the manner in which the plaster is applied. One of the most essential requirements for providing a high degree of porosity is to apply the acoustical plaster to an under coat which is sufficiently dry and porous to furnish a high degree of suction. The suction furnished by the under coat will then draw the excess of water from the acoustical plaster, giving a high degree of porosity to the finish coat. If suction is not provided by the under coat, the binding material in the plaster will form a non-porous film at the exposed surface of the plaster which will be ruinous to the absorptivity of the plaster. The preparation of the under coat for acoustical plaster should be directed very carefully by the plastering foreman and building superintendent, as it is one of the most important factors in determining the absorptivity of the finished acoustical plaster. *Suction must be provided by the under coat.*

There have been a number of failures in the use of acoustical plaster, and nearly all of these failures could have been avoided if provision had been made for suitable tests in connection with the selection and application of the plaster. First of all, the architect should be assured by the manufacturer or distributor that the plaster possesses the degree of absorptivity required to give the optimal condition of reverberation in the proposed room or building. The manufacturer should furnish the architect with a report of a laboratory test which gives the coefficients of sound-absorption of the material *as it is to be applied* in the building. The plastering contractor should then make up small samples, about 16″ x

24", using the material in precisely the same manner as is proposed for use in the building. These samples should then be tested for porosity or absorptivity by the architect or by an acoustical engineer. The writer has devised and used for several years a simple method for determining the porosity of acoustical plaster. The method consists simply of measuring the rate at which air under pressure is forced through the plaster, and comparing this rate with the rate which has been determined previously for samples which have been tested by more accurate methods in an acoustical laboratory. An arrangement of apparatus used for conducting these tests is shown in Fig. 2, and with a little practice the tests can be conducted by the plastering foreman or the building superintendent. A five gallon bottle and a bicycle pump, equipped with a check valve from an inner tube of a pneumatic tire, will suffice for the pressure tank. An ordinary glass U-tube partially filled with water, or any other suitable pressure gauge, will serve to measure the pressure of the air in the bottle. The air is discharged through the plaster by means of a rubber tube and a funnel. The funnel is sealed to the plaster specimen by means of putty, which also makes a seal against a wood collar fitted around the large end of the funnel. The porosity of the plaster is determined by measuring the time required for the pressure in the tank to be reduced a certain amount—say from twenty inches of water down to one inch of water—as measured by the pressure gauge. With a two-inch funnel, and for most good grades of acoustical plaster, it requires about 1½ to 5 seconds for the standard amount of air to be forced through the plaster. By making measurements of the porosity of plaster with this device, both on panels which have been tested in the laboratory and on the plaster proposed for installation in a building, it is possible to make a fairly reliable comparison of the sample panels with the plaster which has been tested previously in the laboratory. The device shown in Fig. 2 is also useful for testing the porosity of the plaster after it is applied in a building, and especially for testing the effects of different types of floating or finishing, or the effects of different types of decoration.

Where large amounts of acoustical plaster are to be used in a building, and the outcome in acoustics is very important, it is advisable to require the plastering contractor to prepare a small room for test, using the same type of plaster and the same manner of application as is to be used in other parts of the building. The plaster should be applied to both the walls and ceiling of the test room. This room can then be tested by

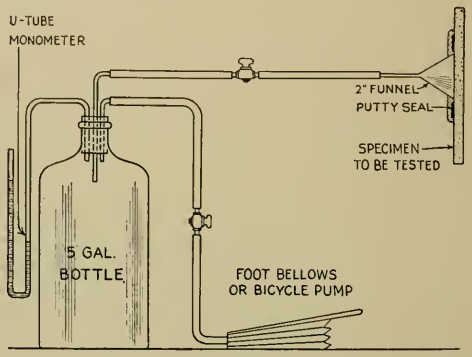


Fig. 2—Arrangement of apparatus for determining the porousity of acoustical plaster.

a suitable reverberation meter, which will determine whether the acoustical plaster will meet the specifications of absorptivity required to give the optimal condition of reverberation in the building. The plaster in the test room can be tested also for structural strength, washability and appearance. If the tests of the plaster in this small room show that the plaster will be suitable for use in the other rooms in the building, the plastering work in the test room will then serve as a standard which the plastering contractor can be required to duplicate in all other rooms in the building. In some cases it may be advisable to require the plastering contractor to furnish a guarantee that the finished plaster will have coefficients of sound-absorption (within plus or minus ten per cent) equal to the coefficients of the plaster tested in the small test room. In this case it is necessary to conduct sound-absorptive tests in the finished

room to determine whether the plastering contractor has fulfilled his guarantee. If an installation of an acoustical plaster is safeguarded by proper supervision and tests, as here outlined, there need be no anxiety with regard to the outcome in the absorptivity of the acoustical plaster. With such a procedure the architect will be in a position to certify to the owner that the acoustical plaster has the degree of absorptivity which was called for in the specifications.

The use of acoustical plaster is expanding at a rapid rate, and acoustical plasters are being developed which meet the highest requirements in the building code. As a consequence, acoustical plaster is becoming a more and more common medium in the hands of the architect for the control of sound in buildings. Standard brands of acoustical plaster and standard methods of application are being evolved, and it is probable that within a few years there will be standard and routine procedures for specifying and supervising the use of acoustical plasters. For the next few years, however, it is necessary that the architect safeguard this part of his work in every possible way. It is not an extravagant prediction to state that at least 50 per cent of all plaster used in public buildings will ultimately be acoustical plaster. By the use of a suitable insulative plaster for the scratch and brown coats, and an absorptive plaster for the finish coat, hotels, apartment houses and all public buildings can be made much more habitable and comfortable than existing buildings which are finished with ordinary plaster.

BRICK OFFERS ATTRACTIVE MATERIAL FOR SMALL HOUSE DESIGN

Illustrations on Next Page

WHEN Gladding Bros. Mfg. Company built their clay products plant in San Jose they asked Carl Wolfe and Wm. E. Higgins, architects, to design an office building that would demonstrate the possibilities of brick and clay tile for small homes. The accompanying pictures of the building are convincing of how well these materials fulfill the requirements.

The architectural motif is Spanish. The exterior walls are a combination of common and klinker brick while the interiors are of gas-fired selected common brick. The floors are promenade tile. The building is roofed with feudal shingle tile (hand made). There are approximately five rooms, including reception vestibule, general offices, two private offices and a drafting room. The ceiling in the main offices is beamed with wave wood stained a grayish brown.

Recent tile roof contracts completed by Gladding Bros. Mfg. Company are the Hoover School, San Jose; Eagle Hill School, Redwood City; St. Helena High School, St. Helena; grammar school at Santa Clara; Porter and Cockroff residences, Watsonville; and two houses in Gilroy. The company's roofing tile is specified on the new San Jose Court House now under construction. Gladding Bros. Mfg. Co. also report a demand for clay sewer pipe, one of its largest contracts for this material being the new sewer system for the town of Gonzales.

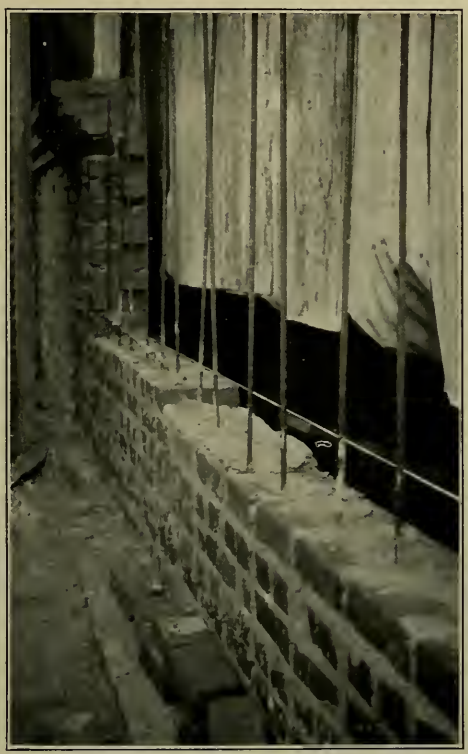
Offices of Gladding Bros. Mfg. Company are: President, Charles Gladding; Vice-President, Augustus L. Gladding; Secretary and Treasurer, Chandler Gladding; sales manager in charge of architectural department, Lloyd W. Cole.

OFFICE BUILDING FOR GLADDING BROS. MFG. CO., SAN JOSE
Wolfe and Higgins, Architects

INTERIOR VIEW FROM
ENTRANCE LOBBY

MAIN OFFICE LOOKING TOWARD
ENTRANCE LOBBY

ENGINEERING
and
CONSTRUCTION



Featuring

Reinforced Brickwork and San Francisco Bay Bridge Towers

GROWING USE OF REINFORCED BRICKWORK

EDITOR'S NOTE:—*Reinforced brickwork is not new in California. Witness the old Palace Hotel in San Francisco which so gallantly withstood the ravages of both earthquake and fire in 1906. This building was a brick structure reinforced with steel cables from the old Comstock Mines. This old structure was a monument to what some engineers choose to describe as "elastic rigidity."*

DURING recent years many architects and engineers have inserted reinforcings in masonry to gain tensile strength in the masonry without destroying that certain amount of "give" which has been ascribed as a characteristic of masonry in successfully resisting damage due to lateral forces. The accompanying photograph shows a reinforced brick retaining wall which was designed by Paul E. Jeffers, Consulting Structural Engineer, Los Angeles. The contractors were Lewis & Morton. The wall surrounds some oil tanks and is designed with reinforced brickwork foundation with toe, the entire design following the design principles established for reinforced concrete. The mortar used was one part cement, one-half part aged lime putty, four and one-half parts clean graded sand by volume, machine mixed. All joints were shoved full. The work was done under a regular permit issued by the Los Angeles Building Department.

The following article appeared in the September, 1931, issue of the *Industrial Bulletin* and indicates the extent to which reinforced brickwork is being developed:

A new combination of structural materials has recently been attracting the attention of American engineers and architects. Until very recently, in this country, masonry walls of brick and stone have been used almost entirely for direct load-bearing purposes, and have not been relied upon to resist tensile stresses where bending may be encountered. Lately, however, it has been pointed out that steel rods or bars may be inserted into a brick and mortar wall to form a reinforced structure capable of resisting stresses of other than a direct compressive nature. Such construction is called reinforced brickwork.

The idea of placing steel reinforcements in brick walls is not new. A cantilever arch, projecting 60 feet from a support and reinforced with flat hoop iron, was constructed in England nearly a century ago. The widest development of reinforced brickwork appears to have taken place in India, under the impetus of the scarcity and expense of other building materials and the availability and comparative cheapness of brick. It has been used successfully in that country for floor and roof slabs, beams, columns, and so forth, and is said to be a standard method of construction in certain areas. In the United States, clay products manufacturers' associations, technical schools, and individual companies and engineers have lately been constructing and testing reinforced brickwork in a number of structural forms in order that the principles of design may be scientifically worked out, the characteristics more fully understood, and data secured upon which standard practices may be based.

The reinforcement of brickwork is effected by embedding the reinforcing steel in the mortar joints during construction. A cement mortar is used. In walls and columns the vertical steel may be set in place and the brickwork built around it. The steel may be placed in the normally occurring joints between the courses of brick, or

may be placed in such a position as to require the cutting or chipping of the brick, since tests indicate that the strength is essentially independent of the size and shape of the bricks. In constructing floor and roof slabs, beams, etc., temporary supporting forms are used as for other types of reinforced masonry. The reinforcing may be placed in the joints between the bricks of the first course as they are laid up on the form, or in thicker construction may be placed on top of the first course. Steel mesh is sometimes used in the latter case.

Tests on reinforced brick beams and slabs are said to indicate that such constructions possess strength essentially equivalent to reinforced concrete or like structures. It has been found that test beams and the like fail, not from the loosening of individual bricks and consequent disintegration, but by cracking through in the manner of reinforced concrete. Walls of reinforced brick resist crumbling when exposed to fire, and the shock resistance of such combination structures may be of particular importance to localities where earthquakes are frequent. These walls also present finished surfaces of pleasing appearance.

Adequate cost data under practical erecting conditions are not yet available. Indications are, however, that the cost will not exceed that of reinforced concrete; in fact, due to possible economies, such as elimination of certain form work, the cost may be less.

SAN FRANCISCO BAY BRIDGE TOWERS WILL BE HIGHER THAN RUSS BUILDING

PIER and tower structures costing $12,000,000 and rising 500 feet above the water line, will crown the San Francisco-Oakland Bay bridge, if the suspension type structure is approved.

Four towers, each one topping the Russ Building, in San Francisco, almost 82 feet, would be erected if the suspension type is used, according to Charles H. Purcell, chief engineer. Each tower would cost approximately $3,000,000, and would rest on piers sinking from 100 to 220 feet below water to bedrock. The towers would support, according to Purcell, cables, and at the roadway level, the stiffening trusses which are introduced to prevent excessive movements of cables. For the particular design for which the towers would be utilized, one would be placed at the end of each 2340 foot span. The Russ Building, tallest structure in the city, is 418′ 3″ high, as against a 500′ tower height.

[Concluded on Page 65]

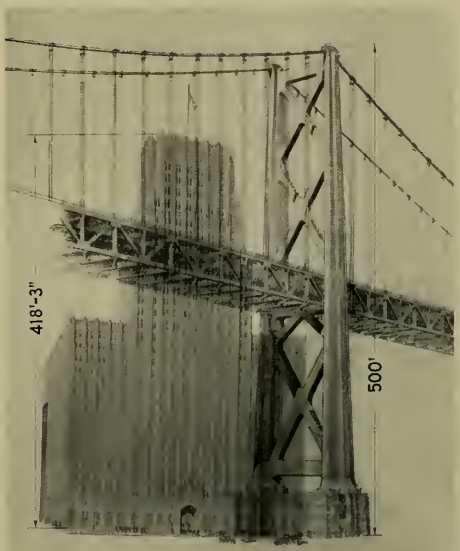
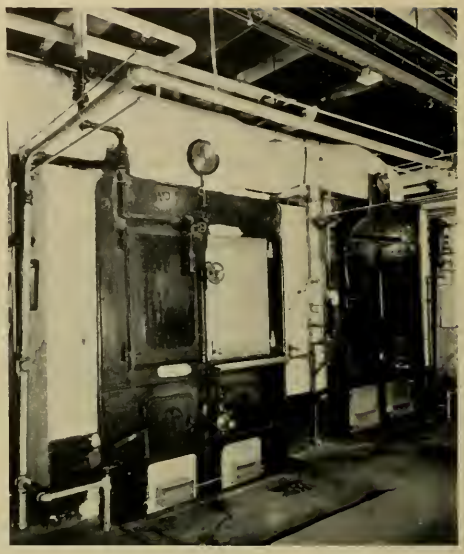


DIAGRAM SHOWING COMPARATIVE HEIGHT OF BAY BRIDGE SUSPENSION TOWERS AND RUSS BUILDING, SAN FRANCISCO

GAS-FIRED HEATING PLANT IN CROCKER OFFICE BUILDING

THE Crocker First National Bank Building, San Francisco, is one of the first large office structures in San Francisco to have natural gas fuel installed in its heating plant. Architects and engineers undoubtedly will be interested in a description of this installation which has many interesting features. Large commercial heating applications of this nature have been few in the San Francisco Bay Region, except in the case of new structures.

The heating plant in the Crocker First National Bank Building is composed of two horizontal return tube Kiwanis brick setting boilers, one of 100 and the other of 90 h.p. These boilers carry 90 lbs. steam pressure, which is reduced to 5 lbs. for heating the building. Until noon each day during the heating season, both boilers carry the load, operating at 45% more than the rated load.



BOILER ROOM IN CROCKER FIRST NATIONAL BANK BUILDING, SAN FRANCISCO

At the time of the installation of gas fuel in this plant, a test covering a thirty-day period was conducted in order to determine the cost of the new fuel for comparison with that of the previous oil fuel. During this 30-day period, natural gas consumed amounted to $278.00; the cost of fuel oil for the corresponding 30-day period in the previous year, 1930, amounted to $329.00. This means that, by the use of this fuel, the monthly fuel bill has been reduced $51.00, or slightly over 15%. And this does not consider the economies that will accrue from the operating advantages of the boilers fired with gas.

A description of the burner system in use in this plant will be of note. In the 90 h.p. boiler are sixteen Newman No. 24 Upshot burners, and twenty of the same burners in the 100 h.p. boiler. This is a vacuum type burner, and constitutes a radical departure from the Bunsen type. It fires from underneath, directly on to the under front of the boiler, thereby securing a long heat travel which results in a higher boiler efficiency than could be secured with straight shot burners on the same job. The plant operates under 1 lb. gas pressure, indicating that this type of burner works satisfactorily under either high or low pressure gas.

A Powers regulator serves as fuel control valve in this installation, maintaining the steam pressure within ½ lb. This is known as off and on control. The air intake

is provided with louvres which automatically open and close as the gas fuel is turned off and on, thereby preventing all cold air from entering the boiler when the fire shuts off. This method of firing has proven very economical and satisfactory. As compared to a throttling control, it is more efficient, because the damper setting with a throttling control is for maximum load which, as can be readily seen, results in inefficiency under a throttled load.

The performance of this installation has been highly gratifying to the owners and engineers of the building. In the boiler room, greatly increased cleanliness has been a noticeable result of the change-over, as the new fuel leaves no residue in burning, and consequently, there is no soot or smoke to be contended with.

Quiet operation is another resulting factor which has proven very agreeable. Gas burners are constructed with a minimum of mechanical parts, and while the greatest advantage of this feature is the virtual elimination of any possibility of mechanical breakdown, quietness in the boiler room is very much appreciated. A heating plant burning gas fuel is practically noiseless in operation.

SAN FRANCISCO BAY BRIDGE TOWERS

[Concluded from Page 63]

Preliminary drawings of the various types have been completed under the direction of Chas. E. Andrew, bridge engineer, and Glenn B. Woodruff, design engineer.

Despite the great height of the massive towers required for the suspension type, they will have a flexible movement of 3 feet at their tops, to accommodate shifting load and wind conditions affecting the bridge.

Borings to bedrock in the bay are being rapidly completed. Holes to determine foundation strength for the tunnel link of the bridge across Yerba Buena Island are being bored, as are the foundation borings for the San Francisco approach.

THEN AND NOW

By Russell Guerne DeLappe, *Architect,* of Oakland, California

In the past that which was the rule has now become the exception. The *contractor,* once a master artisan, has become a broker in labor and material. The *architect,* once a master builder, has become a promoter's wedge. The *banker,* once a medium in the handling of exchange, has become an exploiter in the field of finance. The *realtor,* once a developer of virgin territory, has become a commission merchant in the manipulations of properties. *Legislatures,* once statesmen, have become showmen. The status at inception is not the status at application. . . .

DOHENY MEMORIAL LIBRARY

Completion of the exterior brick and stone work of the new Edward L. Doheny, Jr. Memorial Library, which is being erected and endowed at the University of Southern California by the family of "Ned" Doheny, former alumnus and trustee, is announced by Samuel E. Lunden of Los Angeles, and Cram and Ferguson of Boston, associated architects of the million-dollar collegiate edifice.

The main entrance feature of the Italian-Romanesque structure, to be surmounted by a sculptured tympanum of richly-carved stone bearing the name inscription, is now started. Joseph Conradi, who executed the stone facade carvings of St. Vincent's Church in Los Angeles for the Doheny's, is carving the lintel.

The great bronze doors at the main library entrance will probably be the largest bronze doors ever cast in one piece on the Pacific Coast, states Mr. Lunden.

Stained glass windows are being designed by Wilbur Herbert Burnham of Boston, who did the windows which ornament St. Vincent's.

John B. Smeraldi, Pasadena artist, is to paint the ceiling decorations of the main reading room.

Samuel Armstrong, Santa Barbara artist, is to do the murals for the "treasure room".

Including a magnificent marble frieze in the main delivery hall, all interior marble work is being installed by the Musto-Keenan Company.

The ARCHITECT'S VIEWPOINT

- *Architects and the "Repression"*
- *Some Architectural Opportunities*
- *The Home Building Conference*

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EFFORTS have been made by the architectural press to enlist the support of the architect towards securing some immediate improvement in the economic situation that now renders inactive the architectural and building industry. These efforts have apparently produced nothing of material benefit and could hardly be expected to do so since for this immediate relief we should look to those more closely connected with the financing of building operations. Architects can join with others in maintaining a "Don't Let Down" spirit and like our friend Andy, with his checkered suit and flaming necktie, combat the "Repression" by a courageous show of indifference but it is toward the broader and more fundamental considerations in place of temporary expedients that the professional ability of the architect and the allied press could more wisely be applied.

Practitioners in the sister profession of medicine have always been notably active, not only as a national body, but individually and in local groups in giving of their knowledge to combat unhealthy conditions, although such efforts appear in direct opposition to their financial interests. Constructive architectural improvement in the community, which the architect by virture of his professional knowledge can effectively undertake, is not opposed to his financial interests, and, although not immediately remunerative is a permanent contribution to the welfare of the community of which he is a part. The American Institute of Architects has rendered valuable service for many years in its endeavor to make the architectural profession of service to society, involving much public-spirited effort on the part of its officers and committees, and a Institute Committee is now making a fundamental study of the economic depression with its underlying causes and basic methods for relief.

It is believed that the time is opportune for individual architects and local groups, relieved by the business situation from the exacting details of normal architectural practice, to apply themselves, in co-operation with other agencies, if not to economic research, to other service of a general and constructive architectural character.

* * *

ONE opportunity is offered by the need for more extension of architectural planning beyond the problem of the individual building, extending this more to building groups, and particularly to towns and cities to secure a more orderly and otherwise architectural arrangement than now results from the chaotic condition occasioned by individual ownership. Our city lots are generally too narrow for the isolated dwellings they contain which are crowded together with free spaces between limited to legal restrictions kept at a minimum to satisfy the demands of financial profit. There should be room enough on city lots to prevent this crowding.

Some means should also be found to make the buildings more harmonious in appearance. In other words, secure some measure of architectural control. To some extent effective in privately controlled sub-divisions, this is destined to have a more general application as public opinion is aroused to its importance.

Another opportunity is presented by the ragged appearance of our cities caused by the isolated tall buildings with ornamental facades and almost equally conspicuous side and rear walls devoid of any architectural character whatever. The modernistic trend in design, by eliminating the overhanging cornice which was made to stop abruptly at the limits of the facade, now offers a simpler opportunity to continue some harmonious architectural treatment around these other exposed walls of the building which had hitherto failed to get architectural consideration.

As an opportunity where distinct economic saving would make an appeal, some thought might be given by the architect to further reduction of waste in the vast quantity of advertising matter that daily goes into the waste basket in the architect's office. The American Institute of Architects started an effective movement in this direction some ten years ago by a conference with manufacturers which resulted in securing uniformity in size and convenience in filing. The waste that still continues with other ineffectiveness in getting building material and methods to the attention of the architect represents an expenditure that in these strenuous times would go far toward reducing production cost and would otherwise facilitate building. This means co-operation between architect and material producer which has often been attempted with some measure of success.

Now that the effects of the depression are so universally felt, the time is opportune for all elements of the building industry and others allied by consideration of the public welfare to work together for improvement of architectural and building conditions.

* * *

PRESIDENT HOOVER'S Conference on Home Building and Home Ownership recently held in Washington, D. C., is a distinguished example of co-operation to bring about, by co-ordinated effort, some improvement in this social and building situation of which the home building problem is so important a part. Preparation for this Conference was inaugurated some two years ago by the appointment of committees, the President stating to them his idea that there should be first "A determination of the facts in every direction, followed by a weighing and distillation of these facts and the formulation of collective judgment of the leaders of our country in this special knowledge."

After fifteen months effort on the part of architects and others of special knowledge comprising these committees, the Conference assembled with a large number of delegates from every part of the United States to hear and discuss the reports. In opening the Conference, the President referred to the universal desire for home ownership and its value as a social condition. During the three days which followed, reports of committees were listened to and discussed covering the many phases of the subject; city planning and the planning of individual buildings with consideration given to the various types of dwellings, the layout of kitchens and other details; construction, particularly of houses of minimum cost and finance with special reference to the income of the family. This Conference was intended to be but the beginning of a movement to secure, by co-operation, effective procedure toward home building and ownership, so vital to the welfare of the country. The published proceedings, which will soon be available, will merit the attention of the architect who is in a position to contribute of his knowledge to this important public service.

CHARLES H. ALDEN, F.A.I.A.

NOTABLE EXHIBIT OF MODERN ARCHITECTURE WILL BE SHOWN ON PACIFIC COAST

AN exhibit of modern architecture as exemplified by the work of Frank Lloyd Wright, Raymond Hood, Howe & Lescaze, Bowman Bros. and Richard Neutra, American architects, and Mies van der Rohe, Walter Gropius, J. J. Oud, Le Corbusier and Otto Haesler, European architects —all men of note in their profession—will be in the leading cities of the country this spring and summer. San Francisco and Los Angeles will have a glimpse of the models and photographs of the various types of buildings included in the exhibit in July and August. The types for which models will be shown comprise private houses, multiple dwellings and apartment houses and schools. All the models will be accurately made to scale.

In explaining the national and international significance of the architectural exhibition, Alfred H. Barr, Jr., director of the Museum of Modern Art of New York, said: "There exists in the important countries of the world today a new architecture. The reality of the 'International Style,' as it can conveniently be called, has not yet been brought home to the general public in America. This is due partly to its newness. Also because of its international character, few persons have had the opportunity of gaining a comprehensive view of the style in its entirety.

"The 'International Style' is probably the first fundamentally original and widely distributed style since the Gothic.

"The Museum of Modern Art has closely followed this international activity in architecture. Although the Museum has until now exhibited only works of painting and sculpture, it has felt the need since its inception for a comprehensive exhibition of modern architecture."

A group of some of the most distinguished architects of the world have designed models of the type of building best suited to their individual genius. These men have been chosen as representing the highest achievement in twentieth century architecture. Their models will demonstrate that modern architecture can achieve practical expression in every line of building—home, school, railroad station, apartment house, theater, department store, civic building and church.

The following architects will represent America: Raymond Hood, New York, suburban skyscraper apartment house; Howe & Lescaze, New York, urban multiple dwelling for Chrystie-Forsythe property; Frank Lloyd Wright, Spring Green, Wis., private house; Bowman Brothers, Chicago, apartment house; Richard Neutra, Los Angeles, school.

European architects represented include: Le Corbusier, Paris, private house; J. J. P. Oud, Rotterdam, private house; Otto Haesler, Cassel, Germany, housing development for minimum wage earners at Cassel; Walter Gropius, Berlin, "Bauhaus" school at Dessau; Mies van der Rohe, Dessau, Germany, private house at Brunn, Czechoslovakia.

Each model will be accompanied by enlarged plans and in some cases by special renderings.

There will be approximately eighty enlarged photographs, measuring about three by six feet, showing the existing work of the architects. One room will be devoted to photographs illustrating the international scope of modern architecture. Among the countries represented, in addition to those already mentioned, are: Switzerland, Russia Austria, Czecho-Slovakia, Sweden, Finland, Japan, England, Norway, Spain, Italy and Belgium.

GRANTED CERTIFICATES

At the regular meeting of the State Board of Architectural Examiners, Northern District, January 26th, the following was granted a Provisional Certificate: Hamilton Murdock, 1435 Benton Street, Alameda, California.

At the November 26th meeting of the Southern District, the following were granted Provisional Certificates:

Chester Leonard Carjola, 99 San Ysidro Lane, Santa Barbara; Ralph Mitchell Crosby, 10760 Rochester Ave., Los Angeles; S. Graham Latta, 725 N. Maryland Ave., Glendale; Ulysses Floyd Rible, 754½ South Orange Grove Ave., Los Angeles.

WITH *the* ARCHITECTS

THEATER ALTERATIONS

Miller and Pflueger, architects, 580 Market Street, San Francisco, have been commissioned to prepare plans for extensive alterations to the Mission Theater, San Francisco. The interior will be redecorated and the seating capacity increased. Nasser Brothers are the new owners of the Mission and this firm has also recently taken possession of the New American and Fillmore Theaters.

FACTORY BUILDINGS

A group of factory buildings will be built at the foot of Adeline Street, Oakland, by the El Dorado Oil Company. The engineers are Ellison & Russell, Pacific Building, San Francisco. The group will consist of mill, machine shop, process building, warehouse, extractor, copra bins, office building and tanks. The project will cost $400,000 or more.

MONTEREY TELEPHONE BUILDING

Plans are being prepared by the Engineering Department of the Pacific Telephone & Telegraph Company, 140 New Montgomery Street, San Francisco, for a two story, Class C telephone exchange at Monterey. The building will cost $100,000 with an additional $400,000 for new equipment.

PLANNING COLUMBARIUM

W. O. Raiguel, Del Monte Hotel, Del Monte, is preparing plans for a reinforced concrete mausoleum and columbarium to be built four miles from Monterey for a private corporation, headed by E. H. Tickel, San Carlos Hotel, Monterey. Mr. Raiguel is also preparing drawings for the new Monterey post office.

SACRAMENTO FEDERAL BUILDING

On March 2nd bids will be opened at Washington for the construction of a four story Class A post office building in Sacramento, estimated to cost $1,000,000. Contractors from near and far have asked for plans and specifications. The drawings were prepared by Starks and Flanders, Forum Building, Sacramento.

PALO ALTO RESIDENCES

Two homes for the same owner in the Spanish style of architecture, have been designed by Birge M. Clark, architect, of the University city. The owner is Mrs. Louis Stern who will occupy one of the homes, the other to be occupied by her daughter. The improvements will represent an investment of more than $40,000.

STATE TEACHERS COLLEGE

Plans have been completed by Franklin T. Jorgenson of Eureka for a three story reinforced concrete addition to the State Teachers College at Arcata, Humboldt County. There will be eleven classrooms, assembly hall, gymnasium and library. The State has appropriated $160,000 for the work and bids will be advertised shortly.

MILLS COLLEGE DORMITORY

W. H. Ratcliff, Jr., of Berkeley, has completed drawings for a two story reinforced concrete dormitory to be erected on Mills College campus, Oakland, at a cost of $110,000. The building will have terra cotta tile roof, steel sash throughout, hardwood interior trim and promenade tile floors.

STATE HOSPITAL ADDITION

Plans have been prepared by Peter L. Sala, architect, of Stockton, for a $75,000 addition to the Stockton State Hospital. It will serve as a kitchen and bakery annex to the main dining hall structure. Bids are scheduled to be opened in Sacramento March first.

MR. ASHLEY NAMED ARCHITECT

The Board of Supervisors of Tuolumne county has commissioned George Frederic Ashley of San Francisco, architect, to design a Veterans Memorial building at Sonora to cost $30,000. Many other architects sought the appointment.

ARCHITECTS DISCUSS LAW REVISION

Revision of the statute under which the Oregon Board of Architectural Examiners operates was considered at a convention of all registered architects in the state of Oregon held January 22 at Portland. The Oregon Chapter, American Institute of Architects, cooperating with the examining board, arranged for the convention. Architects serving on the committee were: Fred Claussen, chairman; J. E. Tourtelotte, Ellis Lawrence, Ernst Kroner, Jamieson Parker and Fred Aandahl. Mrs. Margaret Fritsch, Spalding Building, secretary of the examining board, had charge of registration.

The aim of the meeting was to incorporate new standards of building and architecture in the licensing act. The program: Fred Claussen, general introduction; Jamieson Parker, organization report; John V. Bennes, registration; Ernst Kroner, public relations; Harold W. Doty, public works; J. E. Tourelotte, lien laws; Fred Aandahl, contractural relations; O. R. Bean, state building law.

ARCHITECT LOSES LICENSE

The California State Board of Architectural Examiners has revoked the license of Jens C. Petersen of Sacramento to use the title of architect for alleged faulty engineering. The complainant was W. C. Willett, an engineer in the State Division of Architecture.

Petersen has been practicing in Sacramento since 1919. Previously he had been licensed in Chicago.

RUDOLPH FALKENRATH

Rudolph Falkenrath, architect, of Los Angeles, died January 12 after a long illness. He was 45 years old and is survived by a widow and three children. Mr. Falkenrath came to Los Angeles from Salt Lake City in 1913. He was employed in the office of A. F. Rosenheim and later was with J. C. Austin. Following the war he engaged in business for himself. He closed his office several months ago because of ill health.

TALK ON SMALL HOMES

At a joint meeting of the Spokane Society of Architects and the material men of the Falls City, January 8, Frank S. McWilliams, president of the Fidelity Savings and Loan Association, presided. He spoke on the progress made by President Hoover's Small Homes Conference, which Mr. McWilliams attended.

PERSONALS

Chesley Bonestell, who will be remembered as a former associate of Willis Polk, has recently returned to San Francisco and at present is preparing renderings of the municipal opera house. Mr. Bonestell has taken up his residence at 2743 Dwight Way, Berkeley.

Woodworth Wethered, architect, has moved to the Sir Francis Drake Hotel, San Francisco.

R. C. Reamer, architect, has moved to 1201 Fourth Avenue, Seattle, Wash.

Arthur Dysart, architect, is temporarily making his headquarters in the office of C. E. Merriam on the 14th floor of the Smith Tower, Seattle. He formerly occupied a suite on the 17th floor of the Smith Tower jointly with the late Frank H. Fowler.

Messrs. John P. Krempel and Walter E. Erkes have moved from 415 Transamerica Building to suite 1029-30-31 Transamerica Building, Los Angeles.

Lincoln Rodger, architect, has moved his office from 2412 West Seventh Street to 6118 Del Valle Drive, Los Angeles.

Joseph H. Roberts, architect of Long Beach, died at his home in that city January 26, aged 34 years. He had been ill for about two months. Mr. Roberts was born in Cincinnati, Ohio, but had lived for 29 years in Long Beach where he was graduated from the Polytechnic high school in 1916.

Vincent Palmer, architect and civil engineer, announces the removal of his office from 5419 W. Sixth Street, Los Angeles, to larger quarters in Suites 115-109 Coyne Building, 116 N. Larchmont Blvd., Los Angeles.

"AMPHIBIAN ARCHITECT"

"Amphibian architect" is the new title assumed by Silas E. Nelsen of Tacoma. He has turned his talents toward the briny deep by making plans for a 28′ yawl and building a model of it, and beginning the design of a cabin cruiser for Henry Foss, member of the tugboat family. Besides that he is getting a boat plan out for the Tacoma Seascouts.

PLAN NEW THEATERS

The National Syndicate, 25 Taylor Street, San Francisco, will erect new theaters at Madera and Woodland. Their architects are Bliss and Fairweather, Balboa Building, San Francisco.

WINS EMERSON PRIZE

National honors came to the college of architecture, University of Southern California, when Dean A. C. Weatherhead was advised by the Beaux-Arts Institute of Design, New York City, that Boris R. Leven, senior architecture student at University of Southern California, had won the Emerson prize and a first medal, constituting the grand award, in a nation-wide competition for a design of a memorial to Thomas Alva Edison.

In the same competition nine other Trojan students in the college of architecture won medals and mentions.

The Emerson contest involves a problem issued each year by the Beaux-Arts Institute to all universities and ateliers under its supervision. Judgment is made by a special jury of practicing architects and professors of architecture. Awards are made on the merits of the solutions presented, the names of the students and their schools or ateliers being unknown to the jury.

Leven's project which won the Emerson prize will be reproduced in the official publication of the Institute and placed in a traveling exhibition which will be shown throughout the United States and in Europe.

The Emerson prize competition is open only to students of Class "A" registration who have submitted at least one finished problem during the preceding school year in a judgment held by the Beaux-Arts Institute of Design.

The subject of the 1932 competition was described as follows: "In commemoration of the late Thomas Alva Edison, a building is being erected for the public exhibition of his complete electrical inventions. In the great exhibition hall a memorial shall be designed, dignified in character, to form a permanent part of the wall treatment centered on a long side of the room * * *"

Whitney Warren is director of the Beaux-Arts Institute of Design, and Benjamin W. Morris is chairman of the board of trustees of the Institute, which has headquarters at 304 East 44th Street, New York City.

OFFICERS RE-ELECTED

All officers of the Long Beach Architectural Club have been re-elected to serve during the year 1932. They are: Hugh R. Davies, president; Carl Schilling, vice-president; J. H. Roberts, secretary.

LOS ANGELES UNION DEPOT

Decision of the California railroad commission favoring the stub-end union passenger depot plan for Los Angeles, submitted by the Southern Pacific and Union Pacific, was influenced by the lower cost and the fact that it is in every way in substantial accordance with the requirements of its own decision and that of the Interstate Commerce Commission. This decision was upheld both by the state supreme court and the U. S. supreme court, the commission states. The "through" depot plan submitted by the Santa Fe Railway Company, it was held, does not meet the requirements of the commission's order as affirmed by the high courts.

The approved plan calls for a stub-end depot opposite the Plaza, east of Los Angeles Street. Estimates of the cost of this union terminal plan vary from $8,708,000 to $9,517,000. Estimates of cost for the Santa Fe through-depot plan ranged from $10,324,000 to $13,550,000.

Plans for the new Union station are being prepared in the architectural department of the Southern Pacific Company, San Francisco.

MR. AUSTIN STILL ACTIVE

Retiring from the presidency of the Los Angeles Chamber of Commerce after a most succesful administration, John C. Austin, architect, has embarked on another year of active leadership in civic affairs as chairman of the construction industries committee of the Chamber. At the initial meeting of the committee Mr. Austin expressed his desire to broaden the activities of the committee, bringing into it all the interests concerned in construction and making it a sort of melting pot in which the difficulties and problems of the construction industry may be smoothed out. He said this year would, on account of economic conditions, offer an opportunity for constructive effort such as had not heretofore been presented. This situation made it desirable to increase the personnel of the committee to take in all groups which are in any way concerned in construction, including realtors, those engaged in financing building, engineers, architects, contractors, material men and others.

WILLIAMS COMPANY BUSY

The George W. Williams Co. of Burlingame reports some activity in small house construction in the Willborough Place tract, Burlingame. Several houses have recently been completed by this firm and others are in prospect, including one for J. P. Neeley to cost $6500 and one to be built by the Williams Company for speculation to cost $6150.

COLLEGE BUILDINGS

H. A. Minton, architect, 525 Market Street, San Francisco, has completed plans and bids have been taken for the construction of a group of reinforced concrete college buildings for women at Turk and Parker Streets, San Francisco. The project will involve an outlay of $350,000.

DESIGNING STUCCO DWELLINGS

Richard R. Irvine, Call Building, San Francisco, is preparing plans for a group of six frame and stucco dwellings on the east side of 27th Avenue north of Fulton Street, San Francisco, for Heyman Brothers; also, fifteen houses in the Sunset District for the Marion Realty Company.

APARTMENT BUILDING

A six story and basement steel frame and brick apartment building will be erected at 25th and Bartlett Streets, San Francisco, for F. W. Hanchett of 34 Highland Avenue, San Francisco. The plans have been prepared by William C. Ambrose, architect, 605 Market Street, San Francisco.

STORES AND APARTMENTS

Clausen and Amandes, 746-46th Avenue, San Francisco, have prepared plans for a three story and basement store and apartment building to be erected on the southeast corner of 32nd Avenue and Judah Streets, San Francisco, at a cost of $30,000. There will be two stores and four apartments.

BERKELEY THEATER

After several months delay, construction has finally started on the United Artists Theater at Durant Street and Shattuck Avenue, Berkeley. Walker and Eisen of Los Angeles are the architects and Cahill Brothers, the builders. Approximately $250,000 will be expended on the improvements.

MERRITT J. REID, ARCHITECT

Merritt J. Reid, architect, died February 4th at Dante Sanatorium, San Francisco. With his brother, J. W. Reid, who survives, and will go on with the practice, he was a designer of the Fairmont Hotel, Claus Spreckels Building, Fitzhugh Building and many other buildings in San Francisco, throughout the country and abroad. Born in New Brunswick, Canada, Mr. Reid came to San Francisco when a boy and had grown up in the city to become one of its foremost architects. In later years he moved to Mill Valley. A daughter, Mrs. Chapin Tubbs of Calistoga, is the only other surviving close relative.

The firm of Reid Bros. is probably as well known as any other architectural office on the Pacific Coast. Some of the largest structures in San Francisco, Los Angeles and Portland, Oregon, were designed by them, including the Merritt Building in Los Angeles, notable for its pure white marble facade. The Claus Spreckels Building (formerly known as the Call Building) was San Francisco's first real skyscraper. This structure went through the great earthquake and fire and retains today its original character, both in heighth and design. Many theaters scattered throughout the large cities of California are the work of this pioneer firm of architects.

CHRYSLER ASSEMBLY PLANT

At Los Angeles the Chrysler Corporation will erect a new auto assembly plant costing in excess of $1,000,000. The plans for the structure were prepared by Harry T. Miller, architect, and call for a steel frame assembly building, 1100x305 feet with concrete and brick walls, and a two story administration building.

GROUP OF BUNGALOWS

H. C. Baumann, architect, 251 Kearny Street, San Francisco, is preparing plans for a group of twelve or more bungalows to be erected in the Sunset District, San Francisco, for the Marion Realty Company. They will vary in cost from $5000 to $6500 each.

NEW PLYWOOD FOLDER

A new folder issued by the Douglas Fir Plywood Manufacturers Association conveys technical information essential to intelligently use this new and interesting product. Copies may be had on application to their office in the Skinner Building, Seattle.

SMALL HOUSE BUREAU, LONG BEACH

The Small House Plan Bureau of the Long Beach Architectural Club, which will furnish prospective home builders with free consulting service and plans at actual cost of drafting, was opened in the Long Beach Chamber of Commerce Building in January, according to Hugh R. Davies, president of the club. Plans for operation of the bureau are being worked out by the six architects drafted by the club for the work, in conjunction with J. H. Pelkey, new president of Long Beach Builders Exchange and George G. Collins, chairman of the small home committee of the Building and Loan League. The architects are: Hugh R. Davies, George D. Riddle, Cecil Schilling, Kenneth S. Wing, Earl Bobbe and Glen Miller. Each architect will spend two hours daily for a month at the bureau.

"The object of this service," said President Davies, "is to raise the standards in home architecture and eliminate the incompetent builder." The free consulting services will include advice on building, financing, construction and also landscaping and home furnishing. George J. Carpenter will provide the landscaping service for the bureau. The small home as described by the bureau is the house within a limit of 1200 to 1400 square feet area.

AIMEE McPHERSON HOTEL

Attorney W. Joseph Ford, counsel for Aimee Semple McPherson-Hutton, announces that plans have been completed for a $1,000,000 apartment hotel on property near the famous Angelus Temple in Los Angeles. The plans for the hotel are being prepared by William H. Wheeler of San Diego, and call for every convenience known to hotel construction. The building is intended to care for the hundreds of Four Square Gospel workers who come from all parts of the United States to hear Aimee and her tenor-singing husband.

SAN MATEO APARTMENTS

Plans have been completed by Edwards and Schary, 550 Montgomery Street, San Francisco, for a two story, frame and stucco apartment building in San Mateo for Mrs. Ethel L. Fine. There will be twelve two and three room apartments.

REOPENS SAN FRANCISCO OFFICE

Portland Cement Association shows its confidence in the building industry by reopening its San Francisco office at 564 Market Street. George E. Warren, Assistant General Manager at Chicago, has come to the Coast to take charge of the San Francisco office and he will have the assistance of J. E. Jellick, formerly Sales Promotion Manager of the Calaveras Portland Cement Company. Between the two the office should become a factor in promoting the interests of the cement industry in Northern and Central California.

* * *

Mr. Warren has been identified with the Portland cement industry for the last 17 years, of which eleven have been spent in his present position of Assistant General Manager. He is a member of American Society of Civil Engineers and the American Society for Testing Materials.

Mr. Jellick's officiol title will be District Engineer for the Northern and Central California territory with headquarters at the San Francisco office.

The Portland Cement Association was formed thirty years ago and has carried on as a research, educational and promotive body. Selling Portland cement, except as an idea, is no part of Association work. Through its force of field engineers the uses of cement are stressed; selling is the task for the salesmen of the individual member companies. Research work is one of the Association's chief activities. More than 40,000 tests are made each year in its laboratories.

TACOMA BUILDING CODE

Revision of Tacoma's building code was the subject discussed before the Tacoma Society of Architects, January 4, by Silas E. Nelsen, member of the city's revision committee. Particular attention was called to the proposed changes in the code. George Ekvall was commended for excellent work in remodeling the Bekins warehouse.

TO SPEED LONGVIEW BUILDING

Carl F. Gould, of Bebb and Gould, architects, in the Hoge Building, Seattle, reports satisfactory progress on plans for the Federal Building at Longview, Wash. The Bebb-Gould and the John Graham offices in Seattle are working jointly on the plans for this structure.

SOCIETY and CLUB MEETINGS

NORTHERN CALIFORNIA CHAPTER

The regular November meeting of the Northern California Chapter, A. I. A., was held at the St. Francis Hotel, San Francisco, on the evening of the 24th.

The following were present:

Members: G. Frederic Ashley, Reddick H. Bickel, Morris M. Bruce, Gardner A. Dailey, Wm. B. Farlow, Albert Farr, Edward L. Frick, Wm. I. Garren, Henry H. Gutterson, Henry T. Howard, Ellsworth Johnson, Thos. J. Kent, Geo. R. Klinkhardt, Chas. F. Maury, John B. McCool, Angus McSweeney, Harry M. Michelsen, James H. Mitchell, Gwynn Officer, Wilbur D. Peugh, Frederick H. Reimers, Louis Schalk, Wallace Stephen, Roland I. Stringham, Clarence R. Ward, and Stanton Willard.

Guests: Lewis F. Byington, T. C. Carpenter, Samuel T. Farquhar, E. B. deGolia, E. Spencer Macky, Redfern Mason, John O'Toole, Edgar Walter, George Kingsland, George P. Fackt, W. B. Glynn, Richard Gump.

Henry H. Gutterson presided and turned the meeting over to G. Frederic Ashley, as Chairman, to proceed with the program which he had arranged.

The meeting took the form of a symposium on the general subject of the Art Commission with one speaker representing the City Planning Commission. The papers presented as summarized below. Of the speakers, Messrs. Byington, Farquhar, Mason and Walter were among those who took an active part in the achievement of an Art Commission for San Francisco.

Copies of Sections 45 and 46 of the Charter providing for the Commission were distributed at the meeting.

The Art Commission and Music, by Redfern Mason, Music Editor, San Francisco Examiner.

All arts are one in essence and intention. Music is as much a matter of composition as any work of architecture. Music, as a matter of education, should be expected to enjoy public support and subsidy. San Francisco, in proportion to its wealth and size, is doing more for music than any other city in the United States. Good music raises the general level and appreciation of culture. Those interested in good music are also interested in literature, architecture, painting and sculpture, and will devote their efforts to the esthetic development of the city.

The Function of the Literateur on the Art Commission, by Samuel T. Farquhar, Secretary, San Francisco Federation of Arts:

The literary man will, naturally, supervise the composition of inscriptions on public buildings, monuments and memorials. He will give advice tending to improve the literary and typographical form of public documents and of publications partially financed by funds subscribed by the city and county. He will advise in regard to commemorative exercises and pageants. He might well represent San Francisco on the Board of Directors of Californians, Inc.

What May Be Expected of an Art Commission, by Edgar Walter, Sculptor, Traveler, Lecturer on Art:

Lack of fundamental interest and knowledge in matters of art in any branch of the city government makes the appointment of an Art Commission a matter of cardinal importance. Certain European governments, of those nations in the lead in world art progress, have given the Arts a cabinet portfolio, putting it on a par with industrial and economic aspects of national progress.

Art commissions exist in the more important cities of the United States and, on the whole, have been decidedly beneficial. The ideal art commission begins with the character of members. The method prescribed by our charter for appointment gives a warrantable guarantee of integrity and usefulness. Divorcement from political considerations is a main virtue.

To function at its best, the commission must act with courage and understanding and without opportunism. At its worst, an art commission falls into the barren channels of official, banal, art. It would be stretching hopes too far to expect a

perfect commission, owing to the fallibility of contemporaneous judgment, but I look for considerable and much-desired progress.

A Layman Looks at the Art Commission, by Hon. Lewis F. Byington, Chairman, S. F. Board of Freeholders, Chairman, Committee on Historic Monuments, N. S. G. W.:

San Francisco offers an opportunity for architectural development and an expression of civic art surpassing any other locality. Excepting for Senator Phelan, our civic leaders have not been art-minded. He gave us the Burnham Plan, most features of which have still to be realized. Failure to carry this out has been due to economic and business reasons.

Factors wherein San Francisco might well imitate Buenos Aires is the award of medals annually to the owners, architects and builders of the structure adjudged the most beautiful of the year. With this award, goes remission of taxes for a certain period. Another feature is a law compelling owners of vacant lots in certain districts, important in relation to civic developments, to erect masonry walls, harmonizing with adjoining buildings.

Legal Powers of the Art Commission, by Hon. John O'Toole, City Attorney:

Legal powers of the commission are quite broad. Great discrimination should be used in order to build up the confidence of the public in the commission and to strengthen its prestige. The items subject to the approval of the Art Commission, are fully stated in the charter. The control of marquises and projecting signs is an item of great interest to architects. The right to prohibit same may not lie with the commission, but strict control, with public benefit and necessity constantly in mind, may be developed in time into the right to prevent their erection in cases where they are not of substantial benefit to the public.

The provision in the charter permitting the establishment of a night university might be put into effect under the control of the Art Commission taking the form of a great art school.

The Functions of the Art Commission, by E. Spencer Macky, Executive Director, San Francisco Art Association:

Regarding personnel: I hope the painter and sculptor members will possess characters able to say "No" as well as "Yes" at the proper time, without being influenced by other considerations than the ultimate good of the city.

The work of few architects, probably, have reached their ideals. This is certainly true in the practice of the plastic and graphic arts. We can do a tremendous amount in encouraging the development of ideal architecture, painting and sculpture, and in developing a public taste for these. The commission can also cooperate with splendid work now being done by our museums by placing before the people examples of the highest character as standards of good state.

The prime function will be to prevent the disfigurement of our city by ugly structures and paintings which are superficial and crude and by sculpture which is banal.

San Francisco is unique among American cities in having an Art Commission which embraces all the arts, marking it as one of the most progressive art centers.

Function of the Landscape Architect on the Art Commission, by Thomas E. Carpenter, Member, American Society of Landscape Architects, Asst. Landscape Architect, U. S. National Park Service:

City planning is the broadest field of the landscape architect's practice. Ex-officio membership of the Chairmen of the Park and City Planning Commissions on the Art Commission and the presence of a landscape architect should present a fine opportunity for comprehensive planning.

With respect to buildings, the landscape architect is interested in site and environment, and the relationship of the design of one building to another. Through the Art Commission there will be an opportunity to relate the public building both with its immediate environment and the city plan, giving the public a better conception of design and esthetic values in general.

City Planning in San Francisco, As It Is and As It Might Be, by E. De Golia, Member, S. F. City Planning Commission:

The Art Commission is fortunate in having been granted broad, definite powers. The City Planning Commission has been greatly handicapped for the lack of such powers. It has been distracted from the proper consideration of broad phases of planning by the necessity for entering into petty squabbles over such things as gasoline filling-station sites and permits, and commercial district zoning.

The approval of the Art Commission is required in respect to the design of bridges, via-

ducts, arches, approaches and other structures on or extending over any street of public place of the city. It may also advise in respect to lines, grades and plotting of public ways. These are items of great interest to the Planning Commission and a sympathetic and cooperative exercise of these powers will be of the greatest assistance to the Planning Commission.

JAMES H. MITCHELL, Secretary.

SOUTHERN CALIFORNIA CHAPTER

The newly elected officers of Southern California Chapter, A. I. A., were installed at the January 12th meeting, there being a large attendance. The new officers are: Gordon B. Kaufmann, president; Sumner M. Spaulding, vice-president; Palmer Sabin, secretary; Paul J. Duncan, treasurer; Roland E. Coate, director for the three-year term; and Carleton M. Winslow, director for one year to fill the unexpired term of Mr. Kaufmann.

The Chapter adopted a resolution urging the Los Angeles County Supervisors to make a settlement at this time with San Gabriel Canyon mining claim owners, in order that the flood control dam construction program may be carried to completion.

Bill No. 6187, requiring the Treasury Department to employ private architects on all Federal government building projects costing more than $50,000, was discussed and referred to a special committee.

H. C. Chambers, the Chapter's outgoing president, delivered his annual address, of which the following are highlights:

The California State Board of Architectural Examiners has called upon the Chapter for assistance in judging the state examinations for license, and the Chapter members assigned to this work have heartily and ably responded. A Chapter committee has prepared and submitted to the State Board a syllabus outlining for the information of applicants, the subjects which these examinations shall cover. This work with the state licensing board by practicing members of the profession is an important and somewhat unique contribution, as in most states the control of these examinations is very largely in the hands of school authorities.

Under the leadership of the Ethics and Practice committee, Gordon B. Kaufmann, chairman, roundtable discussions covering various phases of practice have been held at Chapter meetings. It is interesting to note that the meetings of the Chapter, which have been well attended, are, in an increasing degree, being devoted to subjects of mutual interest and benefit to the members. Of the twelve meetings held during the past year three have been joint meetings with the State Association; five have had outside speakers; the remainder have been devoted entirely to professional discussions.

Mr. Kaufmann and Mr. Chambers are informally representing the architects on the executive committee of the State Building Congress. All branches of the building industry are represented on this committee. Four meetings have been held to date, which have been devoted principally to a survey of conditions and to organization problems. These meetings have been well attended by leaders in various branches of the industry. Arthur S. Bent is chairman of the Southern Section.

OREGON CHAPTER, A.I.A.

The annual meeting of Oregon Chapter, A.I.A., was held at the University Club, Portland, January 19th.

Members present were: Doty, Marsh, Tucker, Stanton, Aandahl, Brookman, Wallwork, Kennedy, Holford, Jacobberger, Belluschi, Bean, Church, and Crowell.

Meeting called to order at 6 P. M. by President Doty. Minutes of last regular meeting were approved as circularized.

President Doty spoke briefly of the Chapter activities during the past year and read telegrams received from the Oregon delegation in Congress regarding Architects' Employment Bill.

Informal reports were made by Mr. Aandahl, of Executive Committee; Mr. Holford, of Exhibition Committee, and Mr. Bean, Chairman of Membership Committee. Mr. Stanton, Chairman of Public Information Committee, spoke of the work undertaken by his committee but said the work had been at least partially nullified and the enthusiasm of the committee dampened by regretable actions of Chapter members. Mr. Crowell, of Public Works Committee, told of the work done in redesigning the pedestal of the Harvey Scott statue through Chairman Parker's office to the satisfaction of Sculptor Borglum and Mr. Leslie Scott.

Treasurer Herzog presented his annual report which was approved.

Balance in Bank 1-20-1931	$487.79	
Receipts to 1-19-1932	438.16	
Disbursements to 1-19-1932		$606.54
Bank Balance 1-19-1932		311.41
Check of Alfred H. Smith on hand (Hibernia)		8.00
	$925.95	$925.95

The election of officers for 1932 then took place with the following result: President, Harold W. Doty; Vice-President, Fred Aandahl; Secretary W. H. Crowell; Treasurer, Harry A. Herzog; C. H. Wallwork was elected trustee to serve three years. Holdover trustees are Jamieson Parker (one year), W. G. Holford (two years). On motion Messrs. Wallwork and Legge were re-elected delegates to the Oregon Technical Council. The action of the Executive Committee in withdrawing from the Oregon Technical Council unemployment relief movement was discussed and on motion delegates were instructed to express the Chapter's sympathy with the movement and explain more fully to the Council our reasons for withdrawing.

Moved, seconded and passed that each member be elected delegate and alternate to the next annual Institute convention. At this stage the meeting adjourned to the dinner table where discussion was resumed after the edge of the Chapter appetite had been appeased.

A letter from Engineer W. H. Marsh to C. D. James was read which set forth the desirability of architects and engineers working together if revision of state registration laws was to be attempted.

On motion of Mr. Holford, duly seconded, it was voted that the Secretary write to Mr. Marsh to the effect that the Chapter does not now contemplate a change in Architects Registration Law but would be glad to confer with the engineers if and when a change was sought.

On motion of Mr. Aandahl, duly seconded, the action on the previous motion was rescinded. A motion by Mr. Aandahl to change the wording of Mr. Holford's motion failed of a second.

It was moved by Aandahl, seconded and passed that the matter of Mr. Marsh's letter be referred to the Executive Committee.

The Secretary read a letter from Bertha Stuart, Chairman of Membership Committee of the Portland Housing and Planning Association, asking that architects take a more active interest in the activities of that Association by joining as individuals, or by appointment of a committee by the Chapter. On motion the Secretary was instructed to write Miss Stuart asking for more information as to the organization and aims of the Housing and Planning Association.—W.H.C.

SAN FRANCISCO ARCHITECTURAL CLUB

The January meeting held quite an interest for all of the members of the Club and especially for those who attended. The election and installation of officers for 1932 as well as the dismissal of the officers of the year previous, along with the annual reports of all committees, added zest to the meeting. The following officers were elected:

President C. Jefferson Sly; Vice President, Donnell E. Jaekle; Secretary, D. E. Reinoehl; Director, F. A. Reynaud.

The office of treasurer will be retained by Sterling Carter until July. Directors S. C. Leonhauser and Robert Nordin also remain until July. Committees appointed by President C. Jefferson Sly follow:

Editor and Publicity, Donnell E. Jaekle; House and Refreshment, D. E. Reinoehl; Library, F. A. Reynaud; Class, S. C. Leonhauser; Finance, Sterling Carter; Entertainment, Otto G. Hintermann; Reception, William Helm; Employment, Robert Nordin.

Past President Ira Springer was presented with a beautiful S.F.A.C. Club charm in appreciation of his efforts of the past year.

President Sly was also presented with a charm by Mr. Springer which will be worn by him during his term of office.

Harry Langley, past president of the Club, entertained the boys with a wonderful two reel moving picture produced by himself, showing the wonders of the Grand Canyon and Zion National Park, where he spends the greater part of the year improving roads and building bridges.

The Atelier reported a class of 45 working hard for any or all honors that may be in the field for the coming season.

The meeting closed with a buffet lunch served in the quarters by the outgoing refreshment committee, which proved to be a huge success.

—D.E.J.

AMERICAN PUBLIC BUILDINGS OF TODAY—Edited by R. W. Sexton; Foreword by W. A. Delano, A. I. A. Published by the Architectural Book Publishing Company, 108 West 46th Street, New York City. Price $12.50.

This volume, comprehensively written, embraces photographs and plans of city halls, court houses, municipal buildings, fire stations, museums, libraries and park buildings in the major cities of the United States. An interesting foreword by Mr. Delano and some text by the editor rounds out a splendid publication.

The various city planning boards and architects interested in public building plans should find the answer to several important questions in this volume. The cost of the book seems a little high in view of the times.

THREE McINTIRE ROOMS FROM PEABODY, MASSACHUSETTS. By Edwin J. Hipkiss. Published by the Museum of Fine Arts, Boston, Mass., 1931.

The three rooms so admirably illustrated in the above book formed a portion of "Oak Hill" originally owned by Elizabeth Derby West and until recently held by the Rogers family. The architectural woodwork and many of the pieces used in the rooms by their first owner were acquired by the trustees of the Museum.

These rooms came from a well known house situated in Andover Street, a mile and a half northwest of Peabody City, known as South Danvers, Massachusetts. The house was built in 1800-1801 for Captain and Mrs. Nathaniel West.

The architect of "Oak Hill", Samuel McIntire, was recognized as a distinguished craftsman-architect who designed and enriched the finest architecture of Salem. In 1793 he submitted a competitive design for a capitol building at Washington, practically the only known instance of his extending his activity outside of his home town. The last owner of "Oak Hill" was Elizabeth Putnam Rogers (Mrs. Jacob Crowninshield Rogers) 1877-1922.

WAREHOUSES AND SUPPLY STATION

The Pacific Gas and Electric Company is building quite a few warehouses and supply depots in various cities in Northern and Central California. Bids have recently been taken for groups of buildings in Hayward, Colusa and Concord.

PILLARS OF ARCHITECTURE

By FREDERICK M. GREEN*

The three great pillars that support architecture may be named Wisdom, Strength and Beauty.

The architect by wisdom contrives the plan of the building to the end that it may serve the purpose for which it is intended. In modern parlance this element of the design is called Utility.

Strength has reference to the stability of the structure; the capacity of the foundation soil to sustain the weight of the building, the capacity of each column, beam and girder safely to carry the loads imposed upon it, the ability of the materials entering into the structure to resist year after year the stresses induced by the loads imposed.

Beauty—well we all know what beauty is—but who shall succeed in expressing in mere words that intangible elegance and harmony that we call beauty.

It is the duty of the structural engineer to attend at the second pillar, that called Strength. The architect must be left free to solve the problems of utility and, as an artist, to capture and imprison in the dense matter of the building as much of beauty as circumstances permit. It is the function of the structural engineer to design a structure that will embody in the form conceived by the artist, the strength needed to sustain that form.

At a wedding the bride is supposed to wear "something old and something new, something borrowed and something blue." Some architectural designs are a bit like that. Often they contain something old, something new, and something borrowed—and sometimes something blue, but in the kaleidoscopic combination of these old and new, there results always a new problem for the structural engineer.

As no two artists ever dreamed the same dream, so no two building designs are ever exactly alike. The variety in infinite. There is always something new to which the basic principle of structural engineering must be applied, always a new search for the answer to the problem "How to make the artist's dream come true" to the end that neither weight nor load, wind nor shock, heat nor cold, or any other thing shall prevail against the strength of the building but rather that it shall stand for all the years of its usefulness—a safe and serviceable creation.

*Assistant Structural Engineer, California State Department of Engineering, Sacramento.

WHAT OF ARCHITECT'S FUTURE?

Some Observations by Colonel Wm. A. STARRETT, as Reported by ALFRED HUMAN in "Pencil Points"

"OUR country has entered a new era of building, a new era bringing new and complicated phases of construction economics. The three factors that have united in making our country the greatest building nation in the world, the architects, engineers, and builders of America, have conquered many technical problems. In the same spirit we shall conquer the problems of the new phases of economics.

"Architects may be perplexed as to their own status in this new era; the kindred engineering professions are likewise pondering over the question of their relationship to this development. It seems normal that vast progress should introduce new adjustments into the ancient institution of architecture. It also seems plain to me, as a builder and engineer, that the architect's place is secure in the scheme of big construction.

"American cities are being remade. Ever since L. S. Buffington, the young Minnesota architect, dreamed of skeleton steel structures back in 1880, Americans have pioneered a type of building that revolutionized design and construction technique.

"When William Jenney in 1883 designed the Home Insurance Building in Chicago, taking the dead load off his walls and placing it on a skeleton framework of iron concealed in the masonry, he did more than inaugurate the epoch of the skyscraper. He opened a new social era.

"For years prior to the steel-grillage principle — first designed in the office of Burnham and Root, architects of the twelve-story Rookery Building in Chicago in 1888—there was pessimistic comment on the status of American architecture. Of all the arts, it was complained, architecture showed the least vitality.

"Then came the skyscraper, and with it a new attitude of the world toward the American architect and American construction methods.

"This new type of structure transformed the artist-craftsman of yesterday into the three-functioned architect of today, just as it evolved the old-time building contractor, the handicraft specialist, into the coordinator-manager of today. Craftsmanship is merely one vital phase of building operations; at times we seem to forget this primary fact to modern construction."

Colonel Starrett disagrees with those few who say that the architect is a mere theorist or picture-maker. That is an old-fashioned notion, he believes. He continued:

"As a builder I consider that the architect should, if he would keep abreast of modern construction, function in three directions, or, to put it another way, he must operate three distinct businesses.

"First, there is the designing of architecture. Till the skyscraper arrived, this basic ability was the chief function of the architect.

"Second, there is the construction of architecture. That is, the correlation of the engineering problems, the scientific planning and detailing, always with the cost limitations in mind.

"Third, there is the business of architecture. This third phase concerns his relations with the client, the management of his own affairs, his office and operating forces, and particularly his business relations with the builder and the builder's co-workers.

"Such a three-fold functioning is achieved only by intensive training, and mature experience.

"We can at once place our finger on one evil in the architect's profession: the unwillingness of the young draftsman to submit to this indispensable discipline.

"These young men, promising and brilliant in many instances, are restless and seek the immediate realization of their ideas. Instead of holding themselves in leash and settling down to a relatively brief period of work and practical schooling in the right kind of environment, the youngster succumbs to the allurement of the first prospective client's offer.

"Too often this offer comes from the type of individual owner who has made it a part of his

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business to pirate the brains and ideas of promising young architects.

"Plucked out of a good office, the young man feels for a time that he is ready to grapple with almost any problem. The owner, probably a shrewd business man, gets the utmost out of the immature young technician, in many cases assuming the glory for the accomplishments of his man.

"The youngster's income has been increased so generously that he remains satisfied for a while. Then, inevitably, if he has the right stuff in him, he begins to appreciate the futility of this ill-balanced, transitory kind of work. The owner has been profiting by the fine enthusiasm and talents of the youngster, but, after the bloom of youth has been stolen from him, the young architect is obliged to settle down to a jog trot, and perhaps a completely frustrated career.

"He has been ruined by the promise of immediate monetary and professional reward. Too late he must come to realize that he is the victim of a destructive system.

"Destructive because the young man is far from being the only victim. The whole field of architects suffers. There are too many architects—that is the first evil in itself—and the present system of pirating by the individual owner is doubtless the most aggravating and most disturbing element in present-day conditions.

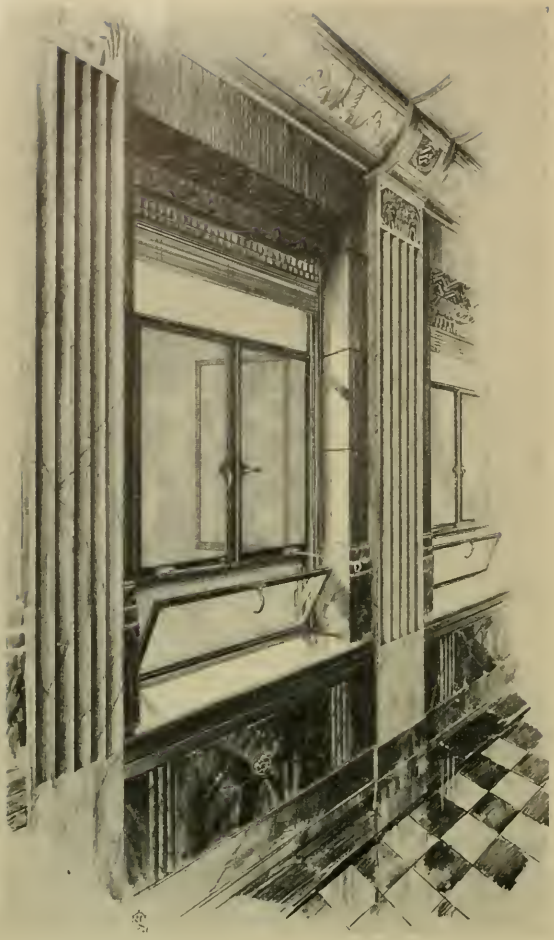
"I cannot offer a solution for this problem; no mere formula will suffice. I do not see any fundamental faults in the schooling of the architect, that is, his academic schooling. As I have indicated in my idea of the three-fold character of the modern architect's functions, the fault lies rather in the activities of the post-school period.

"The suggestion has been made that the architect's school curriculum follow more closely that of the lawyer and doctor, by providing for a lengthier post-graduation period. That theory may be correct but I believe that the individual will have to work out his own professional salvation. Many a fine man will fall by the wayside in the struggle, that is the fate of some of the most brilliant men in all the professions.

"You ask me, how can the young architect secure the kind of business training I have cited?

"How does any banker or manufacturer get his training? Not in school altogether; he must live in the right environment, he must become saturated with his work. Architecture is no different in its new business aspects.

"The architect is not only the leader of the group of three: himself, his structural engineer, and his mechanical engineer. He is not only obliged to master the three functions I have mentioned, design, construction, and business; he is



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WHEN Cabot's Creosote Shingle and Wood Stains are used on shingle roofs or siding, their unfading colors last as long as the wood itself. Because of the way they are made, the stains enter the wood, preserving its texture instead of concealing it with a painty film.

Their beauty lasts still longer because Cabot's Stains are made with genuine refined creosote which usually doubles the natural life of the wood. For example, a house at Cohasset, Mass. had a shingled roof and side walls finished with Cabot's Creosote Shingle and Wood Stains in 1892. At this writing, all shingles on roof and side walls are in good condition and all are in place.

Finally, Cabot's Stains are low in cost and are applied rapidly and economically.

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also compelled to practice or understand the highly complicated details of modern finance.

"He must be equipped to cope with that modern business phenomenon, the speculative builder. He must be prepared to act as a leader in the ferocious competition of the building industry. Like farming, building remains in the stage of jungle competition; fortunes in building are always made indirectly. He must have vast resources of information and equipment to avoid the terrific waste which accompanies competitive building.

"Nowadays the architect, the builder, and the owner must work and live together if they wish to construct a building according to the best standards. Whether on a low bid, competitive bidding, or operating on a cost-saving and profit-sharing basis, these three factors must forget their separate interests and work only to complete the job. The cooperation of the intelligent architect and the skillful builder effects the big, the true economies in construction; these savings are made when the plans are being drawn, not later.

"As the architect is charged with the task of translating the owner's conceptions into plans and specifications he finds that he is serving everybody's best interests by working with the builder from the outset.

"The assumption of costs by the architect is usually the signal for a train of trouble and misunderstanding. I am not referring, of course, to those offices which have the same facilities for computing accurate costs as the builder, for these architects are also operating as builders. It is an inescapable fact that, to secure best results, the architect and the builder must work together from the beginning of every job.

"I have remarked that our cities are being recreated, giving new and almost unlimited opportunties to the equipped architect.

"The decline in the number of smaller structures in the average American city, and the growing popularity of the multiple-use building, offer full scope to the ingenuity of the modern architect.

"For example, let the architect organize the twenty owners of a typical block in New York and subordinate these individuals to the cause of a unified structure.

"That is a typical problem of this new age of building economics."

PIEDMONT RESIDENCE

A new residence in Piedmont has been planned by Sidney B.. Noble and Archie T. Newsom, Russ Building, San Francisco, for J. J. Hollenbeck. The house will be English and will cost in the neighborhood of $50,000.

SIXTY-FIFTH A.I.A. MEETING

The Sixty-fifth convention which will mark the 75th anniversary of the American Institute of Architects, will be held in Washington, D. C., April 27-29. The program is now in the making, according to Frank C. Baldwin, Secretary of the Institute.

One of the major subjects for consideration and action by the convention will be the proposed unification of the architectural profession. Two committees—one representing the Institute, headed by Edwin Bergstrom, of Los Angeles, and another representing the State Societies, headed by Robert H. Orr, of Los Angeles—have been steadily at work since the San Antonio convention. They have had the difficult problem of developing a basic plan on which all important groups can agree. That plan must include those basic principles of organization necessary for a real unification of the architects of the United States. The two committees have had meetings, and have conducted an extensive correspondence.

It is hoped that the unification report and amendments can be submitted to the Chapters during the month of March, and in ample time for discussion and consideration before the convention.

Another important convention feature will be a session devoted to many phases of site planning and housing, under the leadership of Frederick Bigger, chairman of the special committee on economics of site planning and housing. At this session W. R. B. Willcox, F. A. I. A., of Eugene, Oregon, will make a report which should be of great interest to every delegate, not only as an architect but as a citizen. He will discuss "The Effect of Various Methods of Taxation Upon Architectural Practice", a subject which should develop the sentiment of the architectural profession with respect to a problem which has become a critical one in our national and community affairs.

As heretofore, there will be an evening session devoted to architectural education, under the auspices of the committee on education—Charles Butler, chairman.

Another session of the convention will be allotted to consideration of the Plan of Washington, under the auspices of the Committee on the National Capital—Horace W. Peaslee, chairman.

It is quite probable that the Committee on Constitution and By-Laws—Edwin Bergstrom, chairman—will have a series of general amendments to the by-laws, with the object of improving the administrative procedure of the Institute and more closely coordinating its activities. These amendments if ready for consideration will be

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sent to all of the Chapters at least a month before the convention.

The convention will conclude with a dinner, which may take the form of a celebration in honor of the Seventy-fifth Anniversary of the Institute.

ARE THERE TOO MANY?

The recent proposal by Gerard Swope, that scientific production control methods be applied to each industry as a whole in order that the quantity of goods produced will be in line with actual consumption needs, prompts the thought that some study might well be given to the problem of adjusting the number of architectural graduates annually turned out by the schools to the actual needs of the profession for such men. Of course, in times like these, it is obvious that there are too many, but we have an idea that, even in the years before the depression began, there was increasingly an over-supply of holders of architectural degrees turned loose upon the world each spring. Now that we are in the midst of the doldrums and have hundreds and even thousands of draftsmen out of work, the time would seem ripe for a survey to be made, perhaps by the Association of Collegiate Schools of Architecture, to determine the approximate annual capacity of the profession to absorb the men the schools are preparing. If any such numerical estimate were made and compared with the present enrollment in the schools, we suspect it would point to the logic of working for a decrease in the number of students.

Up to the present, most of the schools have been endeavoring to grow in size. Growth pleased the trustees. Our American passion for bigness asserted itself. Each institution pointed with pride to its annual increase in enrollment. That was all very well while the profession itself was growing. But have we not yet reached the saturation point? Do we not hear frequent assertions that there are too many architects, even in normal years? Why, then, would it not be a good idea to take account of stock, find out where we stand, and then, if necessary, begin an adjustment?

A few schools have already adopted a limited enrollment policy. Only a certain number of undergraduate students are allowed and of these an even smaller number are permitted to go on with graduate work. The result, in these instances, is to raise the standards and weed out the less gifted material. If this practice were universal throughout all our architectural schools it might be of benefit to all—and not least to those who were weeded out. These would be forced

For any Concrete slab—SISALKRAFT

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protects AS IT CURES!

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SPREAD on as soon as the concrete is set, Sisalkraft provides a waterproof cover which keeps in the moisture necessary for curing, and at the same time provides a protection that keeps out the dirt while the slab is being walked on, worked on, and otherwise abused. When the job is finished, Sisalkraft is rolled up, taking with it all the dirt, dust, oil and grease stains . . . leaving only a clean, hard, dense concrete surface. It is a simple, trouble-free method of handling concrete curing . . . far more economical than for any other way of securing comparable results.

Architects and contractors recommend Sisalkraft because they know it has adequate strength and toughness. Its non-elastic sisal fibres imbedded in asphalt and covered with heavy kraft paper make it practically wearproof. Sisalkraft is not affected by the weather . . . it remains pliable in winter and does not get sticky in summer. This tough, rugged paper is clean and easy to handle, and is applied with ease, under all conditions.

Get a sample of Sisalkraft from your nearest dealer. Tear it clear across . . . give it every test . . . examine its reenforced construction. See for yourself why Sisalkraft has no equal as a protective paper . . . and why it is really "more than a building paper."

Write for illustrated folder on the protection of new concrete. It describes this economical method of producing better jobs.

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A & E 2 Gray

Estimator's Guide

Giving Cost of Building Materials, Wage Scale, Etc.

Amounts quoted are figuring prices and are made up from average quotations furnished by material houses to three leading contracting firms of San Francisco.

THIS MONTH—*Prices more steady. U. S. Government enforcing Wage Scale on Government Contracts*

All prices and wages quoted are for San Francisco and the Bay District. There may be slight fluctuation of prices in the interior and southern part of the state. Freight cartage, at least, must be added in figuring country work.

Overtime in wage scale should be credited with time and a half, Sunday and holidays double.

Bond—1½% amount of contract.

Brickwork—
Common, $30 to $35 per 1000 laid, (according to class of work).
Face, $65 to $85 per 1000 laid, (according to class of work).
Brick Steps, using pressed brick, $.85 lin. ft.
Brick Walls, using pressed brick on edge, 55c sq. ft. (Foundations extra.)
Brick Veneer on frame buildings, $.60 sq. ft.
Common, f. o. b. cars, $14.00 plus cartage.
Face, f.o.b. cars, $40.00 per 1000, carload lots.

HOLLOW TILE FIREPROOFING (f.o.b. job)

3x12x12 in.	$ 68.00 per M
4x12x12 in.	76.50 per M
6x12x12 in.	105.00 per M
8x12x12 in.	170.00 per M

HOLLOW BUILDING TILE (f.o.b. job) carload lots).

8x12x5½	$76.50
6x12x5½	59.50

Composition Floors — 18c to 30c per sq. ft. In large quantities, 18c per sq. ft. laid.
Mosaic Floors—80c per sq. ft.
Duraflex Floor—23c to 30c sq. ft.
Rubber Tile—50c per sq. ft.
Terazzo Floors—40c to 55c per sq. ft.
Terazzo Steps—$1.50 lin. ft.

Concrete Work (material at San Francisco bunkers) — Quotations below 2000 lbs. to the ton.

No. 3 rock, at bunkers	$1.65 per ton
No. 4 rock, at bunkers	1.65 per ton
Elliott top gravel, at bnkrs.	1.75 per ton
Washed gravel, at bunkrs	1.75 per ton
Eliott top gravel, at bnkrs.	1.75 per ton
City gravel, at bunkers	1.40 per ton
River sand, at bunkers	1.50 per ton
Delivered bank sand	1.10 cu yd.

Note—Above prices are subject to discount of 10c per ton on invoices paid on or before the 15th of month, following delivery.

SAND
Del Monte, $1.75 to $3.00 per ton.
Fan Shell Beach (car lots, f. o. b. Lake Majella), $2.75 to $4.00 per ton.
Cement, $2.24 per bbl. in paper sks.
Cement (f.o.b. Job, S. F.) $2.44 per bbl.
Cement (f.o.b. Job, Oak.), $2.64 per per bb
Rebate of 10 cents bbl. cash in 15 days.
Medusa "White" .....$ 8.50 per bbl.
Forms, Labors average 22.00 per M.
Average cost of concrete in place, exclusive of forms, 28c per cu. ft.
4-inch concrete basement floor.....13c to 14c per sq. ft.
4½ inch Concrete Basement floor .....13c to 14c per sq. ft.
2-inch rat-proofing....6½c per sq. ft.
Concrete Steps.....$1.10 per lin. ft.

Dampproofing and Waterproofing—
Two-coat work, 18c per yard.
Membrane waterproofing—4 layers of saturated felt, $5.00 per square.
Hot coating work, $1.80 per square.
Medusa Waterproofing, 15½c per bbl, San Francisco Warehouse.

Electric Wiring — $2.75 to $8.50 per outlet for conduit work (including switches).
Knob and tube average $2.25 to $5.00 per outlet, including switches.

Elevators—
Prices vary according to capacity, speed and type. Consult elevator companies. Average cost of installing an automatic elevator in four-story building, $2450; direct automatic, about $2400.

Excavation—
Sand, 40 cents; clay or shale, 90c per yard.
Teams, $10.00 per day.
Trucks, $20 to $25 per day.
Above figures are an average without water. Steam shovel work in large quantities, less; hard material, such as rock, will run considerably more.

Fire Escapes—
Ten-foot balcony, with stairs, $65.00 per balcony.

Glass (consult with manufacturers)—
Double strength window glass, 15c per square foot.
Quartz Lite, 50c per square foot.
Plate 80c per square foot.
Art, $1.00 up per square foot.
Wire (for skylights), 27c per square foot.
Obscure glass, 25c square foot.
Note—Add extra for setting.

Heating—
Average, $1.60 per sq. ft. of radiation, according to conditions.

Iron—Cost of ornamental iron, cast iron, etc., depends on designs.

Lumber (prices delivered to bldg. site)
Common, $21.00 per M (average).
Common O. P. select, average, $26.00 per M.

1 x 6 No. 3—Form Lumber	$15.00 per M
1 x 4 No. 1 flooring VG	55.00 per M
1 x 4 No. 2 flooring	46.00 per M
1 x 4 No. 3 flooring	40.00 per M
1 x 6 No. 2 flooring	$45.00 per M
1¼x4 and 6 No. 2 flooring	55.00 per M

Slash grain—

1 x 4 No. 2 flooring	$35.00 per M
1 x 4 No. 3 flooring	32.00 per M
No. 1 common run to T. & G.	28.00 per M
Lath	5.00 per M

Shingles (add cartage to prices quoted)—

Redwood, No. 1	$ .85 per bdle.
Redwood, No. 2	.65 per bdle.
Red Cedar	.85 per bdle.

Hardwood Flooring (delivered to building)—
13-16x3¼" T & G Maple.....$105.00 M ft.
1 1-16x2¼" T & G Maple..... 135.00 M ft.
⅞x3½ sq. edge Maple ..... 122.50 M ft.

	13-16x2¼" T&G	⅝x2" T&G	5-16x2" Sq.Ed.
Clr. Qtd. Oak	$175.00 M	$125.00 M	$158 M
Sel. Qtd. Oak	115.00 M	95.00 M	110 M
Clr. Pla. Oak	110.00 M	87.00 M	95 M
Sel. Pla. Oak	106.00 M	68.00 M	82 M
Clear Maple	110.00 M	82.00 M	
Laying & Finishing	16c ft.	15c ft.	13c ft.

Wage—Floor layers, $9.00 per day.

Building Paper—

1 ply per 1000 ft. roll	$2.80
2 ply per 1000 ft. roll	4.2[illegible]
3 ply per 1000 ft. roll	6.50
Sisalkraft, 500 ft. roll	5.50
Sash cord com. No. 7	$1.00 per 100 ft.
Sash cord com. No. 8	1.10 per 100 ft.
Sash cord spot No. 7	1.60 per 100 ft.
Sash cord spot No. 8	1.90 per 100 ft.

Sash weights cast iron, $45.00 ton
Nails, $2.85 base.
Belgian nails, $2.60 base.

Millwork—
O. P. $72.50 per 1000. R. W., $76.00 per 1000 (delivered).
Double hung box window frames, average, with trim, $5.00 and up. each.
Doors, including trim (single panel, 1¾ in. Oregon pine) $5.75 and up, each.
Doors, including trim (five panel, 1¾ in. Oregon pine) $5.50 each.
Screen doors, $3.50 each.
Patent screen windows, 20c a sq. ft.
Cases for kitchen pantries seven ft. high, per lineal ft., $4.25 each.
Dining room cases, $5.25 per lineal foot.
Labor—Rough carpentry, warehouse heavy framing (average), $11.00 per M.
For smaller work, average, $22 to $30 per 1000.

NOTE — Above quotations are for ¾ inch wainscot in large slabs f.o.b. factory. Prices on all other classes of work should be obtained from the manufacturers.

Floor Tile—Set in place.

Verde Antique	$2.50 sq. ft.
Tennessee	1.50 sq. ft.
Alaska	1.35 sq. ft.
Columbia	1.45 sq. ft.
Yule Colorado	1.45 sq. ft.
Travertine	1.60 sq. ft

Painting—

Two-coat work	27c per yard
Three-coat work	36c per yard
Cold Water Painting	8c per yard
Whitewashing	4c per yard

Turpentine, 85c per gal, in cans and *9c per gal. in drums.
Raw Linseed Oil—71c gal. in bbls.
Boiled Linseed Oil—72c gal. in bbls.
Medusa Portland Cement Paint, 20c per lb.

Carter or Dutch Boy White Lead in Oil (in steel kegs).

	Per Lb.
1 ton lots, 100 lbs. net weight	10½c
500 lb. and less than 1 ton lots	12c
Less than 500 lb. lots	10¾c

Dutch Boy Dry Red Lead and Litharge (in steel kegs).

1 ton lots, 100 lb. kegs, net wt.	10½c
500 lb. and less than 1 ton lots	12c
Less than 500 lb. lots	10¾c

Red Lead in Oil (in steel kegs)

1 ton lots, 100 lb. kegs, net. wt.	12c
500 lb. and less than 1 ton lots	12½c
Less than 500 lb. lots	12¾c

Note—Accessibility and conditions cause wide variance of costs.

Patent Chimneys—

6-inch	$1.00 lineal foot
8-inch	1.50 lineal foot
10-inch	1.85 lineal foot
12-inch	2.10 lineal foot

Pipe Casings — 12" long (average), $8.00 each. Each additional inch 10c.

Plastering—Interior—

	Yard
1 coat, brown mortar only, wood lath	$0.36
2 coats, lime mortar hard finish, wood lath	.45
2 coats, hard wall plaster, wood lath	.50
3 coats, metal lath and plaster	.90
Keene cement on metal lath	1.10
Ceilings with ¾ hot roll channels metal lath	.65
Ceilings with ¾ hot roll channels metal lath plastered	1.30
Shingle partition ¾ channel lath 1 side	.60
Single partition ¾ channel lath 2 sides 2 inches thick	2.00
4-inch double partition ¾ channel lath 2 sides	1.20
4-inch double partition ¾ channel lath 2 sides plastered	2.25

Plastering—Exterior—

	Yard
2 coats cement finish, brick or concrete wall	$ .90
2 coats Atlas cement, brick or concrete wall	1.15
3 coats cement finish No. 18 gauge wire mesh	1.60
3 coats Medusa finish No. 18 gauge wire mesh	2.90

Wood lath, $4.00 per 1000.

2.5-lb. metal lath (dipped)	.15
2.5-lb. metal lath (galvanized)	.18
3.4-lb. metal lath (dipped)	.20
3.4-lb. metal lath (galvanized)	.25

¾-inch hot roll channels, $45 per ton.

Finish plaster, $16.40 ton; in paper sacks, Dealer's commission, $1.00 off above quotations.
$13.65 (rebate 10c sack).
Lime, f.o.b. warehouse, $2.25bbl.; care, $2.15
Lime, bulk (ton 2000 lbs.), $16.00 ton.
Wall Board 5 ply, $43.00 per M.
Hydrate Lime, $19.50 ton.

Composition Stucco—$1.35 to $1.75 per sq. yard (applied).

Plumbing—

From $58.00 per fixture up, according to grade, quantity and runs.

Roofing—

"Standard" tar and gravel, $5.00 per square for 30 squares or over.
Less than 30 squares, $5.25 per sq.
Tile, $17.00 to $30.00 per square.
Redwood Shingles, $11.00 per square in place.
Cedar Shingles, $10 sq. in place.
Recoat, with Gravel, $3.00 per sq.

Sheet Metal—

Windows—Metal, $1.80 a sq. foot.
Fire doors (average), including hardware, $2.00 per sq. ft.

Skylights—

Copper, $1.00 sq. ft. (not glazed).
Galvanized iron, 25c sq. ft. (not glazed).

Stone—

Granite, average, $7.00 cu. foot in place.
Sandstone, average Blue, $3.50; Boise, $2.60 sq. ft. in place.
Indiana Limestone, $2.60 per sq. ft. in place.

Store Fronts—

Copper sash bars for store fronts. corner, center and around sides, will average 70c per lineal foot.
Note—Consult with agents.

1932 Wage Schedule for San Francisco Building Trades

ESTABLISHED BY THE IMPARTIAL WAGE BOARD OCTOBER 17, 1931.

This scale is to be considered as a minimum and employees of superior skill and craft knowledge may be paid in excess of the amounts set forth herein.

CRAFT	Journeymen Mechanics	Helpers
Asbestos Workers	$ 8.00	$
Bricklayers	11.00	
Bricklayers' Hodcarriers	7.00	
Cabinet Workers (Shop)	7.50	
Cabinet Workers (Outside)	9.00	
Caisson Workers (Open)	8.00	
Carpenters	9.00	
Cement Finishers	9.00	
Cork Insulation Workers	9.00	
Electric Workers	9.00	
Electrical Fixture Hangers	8.00	
Elevator Constructors	10.00	7.00
Engineers, Portable and Hoisting	9.00	
Glass Workers	8.50	
Hardwood Floormen	9.00	
Housemovers	8.00	
Housesmiths, Architectural Iron	9.00	
Housesmiths, Reinforced Concrete, or Rodmen	9.00	
Iron Workers (Bridge and Structural), including Engineers	11.00	
Laborers (6-day week)	5.50	
Lathers, Channel Iron	10.00	
Lathers, All Other	8.50	
Marble Setters	10.00	6.00
Marble Cutters and Copers	8.00	
Marble Bed Rubbers	7.50	
Marble Polishers and Finishers	7.00	
Millmen, Planing Mill Dept.	7.00	
Millmen, Sash and Door	6.00	
Millwrights	9.00	
Model Makers	10.00	
Model Casters	9.00	
Mosaic and Terrazzo Workers	9.00	
Painters	9.00	

CRAFT	Journeymen Mechanics	Helpers
Painters, Varnishers and Polishers (Shop)	$ 7.50	$
Painters, Varnishers and Polishers (Outside)	9.00	
Pile Drivers and Wharf Builders	9.00	
Pile Drivers Engineers	10.00	
Plasterers	11.00	
Plasterers' Hodcarriers	7.50	
Plumbers	10.00	
Roofers, Composition	8.00	
Roofers, All Others	8.00	
Sheet Metal Workers	9.00	
Sprinkler Fitters	11.00	
Steam Fitters	10.00	
Stair Builders	9.00	
Steel Pan, Concrete	7.00	
Stone Cutters, Soft and Granite	8.50	
Stone Setters, Soft and Granite	9.00	
Stone Carvers	8.50	
Stone Derrickmen	9.00	
Tile Setters	10.00	6.00
Tile, Cork and Rubber	9.00	
Auto Truck Drivers—Less than 2,500 lbs	6.00	
Auto Truck Drivers—2,500 lbs. to 4,500 lbs	6.50	
Auto Truck Drivers—4,500 lbs. to 6,500 lbs	7.00	
Auto Truck Drivers—6,500 lbs. and over	7.50	
General Teamsters, 1 Horse	6.00	
General Teamsters, 2 Horses	6.50	
General Teamsters, 4 horses	7.00	
Plow Teamsters, 4 Horses	7.00	
Scraper Teamsters, 2 Horses	6.50	
Scraper Teamsters, 4 Horses	6.50	

GENERAL WORKING CONDITIONS—

1. Eight hours shall constitute a day's work for all crafts, except as otherwise noted.
2. Plasterers' Hodcarriers, Bricklayers' Hodcarriers, Roofers' Laborers and Engineers, Portable and Hoisting, shall start 15 minutes before other workmen, both at morning and at noon.
3. Five days, consisting of not more than eight hours a day, on Monday to Friday inclusive, shall constitute a week's work.
4. The wages set forth herein shall be considered as net wages.
5. Transportation costs in excess of twenty-five cents each way shall be paid by the contractor.
6. Traveling time in excess of one and one-half hours each way shall be paid for at straight time rates.
7. Overtime shall be paid as follows: For the first four hours after the first eight hours, time and one-half. All time thereafter shall be paid double time. Saturdays (except Laborers), Sundays and Holidays from 12 midnight of the preceding day, shall be paid double time.
8. On Saturday Laborers shall be paid straight time for an eight-hour day.
9. Where two shifts are worked in any twenty-four hours, shift time shall be straight time. Where three shifts are worked, eight hours' pay shall be paid for seven hours on the second and third shifts.
10. All work, except as noted in paragraph 11, shall be performed between the hours of 8 a. m. and 5 p. m.
11. In emergencies, where premises cannot be vacated until the close of business, men then reporting for work shall work at straight time. Any work performed on such jobs after midnight shall be paid time and one-half up to four hours of overtime and double time thereafter, provided, that if a new crew is employed on Saturdays, Sundays or Holidays which has not worked during the five preceding working days, such crew shall be paid time and one-half. No job can be considered as an emergency job until it has been registered with the Industrial Association and a determination has been made that the job falls within the terms of this section.
12. Recognized holidays to be: New Year's Day, Decoration Day, Fourth of July, Labor Day, Admission Day, Thanksgiving Day, Christmas Day.
13. Men ordered to report for work, for whom no employment is provided, shall be entitled to two hours' pay.
14. This award shall be effective in the counties of San Francisco and Alameda.

to turn their activities to other fields where they might well be more successful than they would be in architecture. As it is now, many of them are weeded out eventually through competition—but it happens later after they have wasted more time in something for which they are not fitted.

Of course, this is a free country, and if a man wants to study architecture he cannot be forbidden to do so. If the enrollment is limited in one school, he will go to another. If they are all full, other schools will be started. If the standards are raised in some schools, others will be found willing to let him get a degree more easily. Such conditions involve additional problems for the educators to work out.

If it should be found that too many men are studying architecture, outlets for some of them might be found in other phases of the building industry. Architectural training should help rather than hinder a man's progress toward success as a building contractor. It should make him a more competent unit in either the production or sales organization of the manufacturer of building materials. Our symposium of last June brought out a very definite need for architecturally-trained men to act as manufacturers' representatives in dealing with the profession. A man's interest in architecture need not be frustrated just because he does not continue to bend over a drafting board. Perhaps he might be better off if he were contacting the profession from without rather than from within.

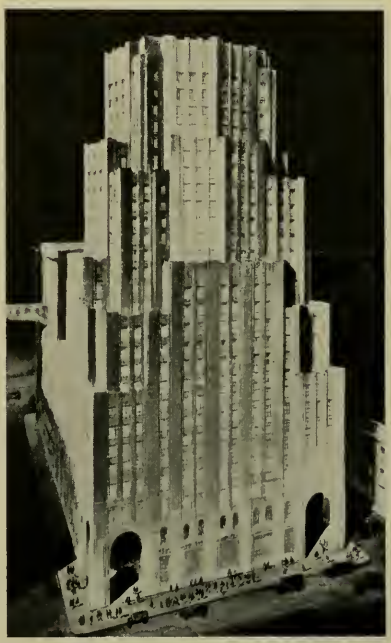
True, the old law of supply and demand does function but its functioning is often painful. It seems as though it might be helped with a little more foresighted planning. The fact that it takes four or five or six years to put a student through an architectural school makes the problem a bit more difficult. Curiously enough there was a large class graduated last June into a field where there were practically no jobs. Now, we find, the group entering the schools this fall is unusually small and this group will probably graduate into a boom period five years hence. What is the answer?

The whole problem is a very big one, but we should not be dismayed by its enormity. Much serious thought has been and is being given to it and we feel sure that eventually a better adjustment will be reached. It is worth tackling for it touches in some way upon the lives of all factors in the profession — architect, draftsman, teacher, and student.—*Pencil Points.*

VENTURA POST OFFICE

Harold E. Burket, 455 East Main Street, Ventura, has been commissioned architect to prepare plans for a Class A post office building in Ventura at a cost of $200,000.

Metropolitan Life Insurance Building
New York City



Architects: Waid and Corbett
Structural Engineers: Purdy and Henderson
Contractors: Starrett Brothers and Eken

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ARCHITECT'S RESPONSIBILITY

Of importance to contractors, architects and owners is the recent decision of the District Court of Appeal in the case of Monson v. Fischer (5 Pac. Rep. (2d) 628).

A petition to have cause heard in the Supreme Court, after judgment in the District Court of Appeal, was denied by the Supreme Court.

The controversy centers about the authority of the architect in the conduct of the work.

Martha Fischer, the owner, employed Willis E. Lowe, architect, to prepare plans and specifications for a four-story and basement reinforced concrete building to be erected at the Northwest corner of 10th and Howard Streets, San Francisco. The owner had leased the proposed structure to Geo. Haas & Sons for a long term to be used as a candy factory. By the lease, the tenant assumed responsibility for the maintenance of the building during occupancy and such occupancy, it was agreed, should be deemed an admission that it was sound and constructed in compliance with the plans and specifications, which were made part of the lease.

The contractors entered into a contract with the owner for an agreed price of $124,175. The contract consisted of two documents—one entitled "Articles of Agreement", a printed form (A. Carlisle & Co. form 148), containing in addition certain typewritten stipulations. — the other designated as the "Specifications" prepared by the architect and being entirely typewritten, was annexed to the articles of agreement and by reference made a part thereof. Because of the provisions of the lease, the tenant consulted an engineering firm (Smith Emery & Co.) to observe the work. A representative was present on each day that the mixing and pouring of concrete continued and took samples thereof. The owner being informed of the tenant's action, did not employ inspection or testing engineers, being content to rely upon the services of the architect. The architect was not continuousuly present during pouring of concrete.

The contractors commenced construction, completed the excavations for the basement and footing and began the pouring of the concrete. The work had progressed to the first floor level.

On December 2, 1927, the architect notified the contractors in writing that he had received a report from the testing engineers covering two 14 day tests which indicated a crushing strength of but 685 and 805 pounds per square inch.

On December 5, 1927, the architect delivered his certificate that $21,504.75 was due the contractors. No demand was made upon the owner

thereon until December 27, 1927, and after the dispute arose.

Under the contract, the contractors upon obtaining the architect's certificate, would be entitled on December 1, 1927, to a progress payment for work done previously to that date.

The pouring of concrete progressed intermittently from November 7, 1927, to December 2, 1927. The footings, walls, sidewalk slabs and basement columns had been poured when the architect called a halt and subsequently ordered the removal of all concrete work on the ground that the same did not comply with the specifications. On December 6, 1927, the contractors were ordered in writing to remove the concrete theretofore poured on the ground that the same was defective as to materials, mix and workmanship and did not comply with the specifications.

The contractors took issue with the architect, asserting that the concrete was mixed and poured in accordance with instructions given them by the testing engineers and on the further ground that the architect failed to report any defect in the materials and workmanship during the progress of the work.

Several conferences were held during which the contractors informally suggested that the dispute be submitted to the decision of engineers to be appointed by the parties. This offer was refused by the owner. The work did not progress further.

On December 24, 1927, the architect stated that the contractors had failed to perform the work and had neglected and refused for more than ten days to proceed pursuant to the plans and specifications and advised the owner that such refusal was sufficient grounds for termination of the contract.

On January 4, 1928, the owner again notified the contractors to proceed with the work, demanding the removal of the defective concrete. She further notified them that if they did not so proceed within five days she would terminate their employment and take over the work as provided in the contract and complete the work herself.

On January 14, 1928, the owner formally terminated the contract. Thereafter, the contractors made a written formal demand for arbitration. This was refused, but, nevertheless, the arbitrator appointed by the contractors made his finding in their favor.

The contractors brought suit to recover the amount of the progress payment, estimated profits and damages. The trial court found in their favor, rendering a judgment for $45,544.69. On appeal, the Appellate Court reversed the judgment of the trial court.

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The contention of the owner was that the contractors were obligated to obey the order of the architect, as his decision on the question was conclusive and final unless the contractors demanded arbitration in the manner and within the time as provided by the contract. The Appellate Court sustained the owner and directed a reversal of the judgment of the trial court.—RICHARD TUM SUDEN in *Daily Pacific Builder.*

NORTHERN CALIFORNIA CHAPTER

The regular meeting of the Northern California Chapter, the American Institute of Architects, was held at the St. Francis Hotel, San Francisco, on the evening of Tuesday, January 26th.

The President, Henry H. Gutterson, reported on the activity of the Chapter in the support of Congressional Bill 6187, authorizing the Secretary of the Treasury to employ outside architectural and engineering services for the designing of Federal Buildings.

Announcement was made of the death of Mr. E. J. Molera (retired), honorary Chapter member. It was directed that the sympathy of the Chapter be conveyed to his family.

Consideration was given to the organized effort to secure the restoration of the town of San Juan Bautista. Expressive of its attitude in this matter, the Chapter adopted the following resolution which was introduced by Mr. John B. McCool, Chairman of the Historic Landmarks Committee:

Whereas the mission and town of San Juan Bautista constitute a monument and landmark valuable for artistic and historic consideration, and whereas an effort is now being made to accomplish the preservation and restoration of the mission and town of San Juan Bautista, therefore:

Be It Resolved that, in regular meeting assembled, the Northern California Chapter, American Institute of Architects, registers its appreciation and in every way desires to cooperate in this movement:

And Be It Further Resolved that the Chapter thru its committee on historic landmarks will offer competent architectural advice in connection with the statewide enterprise.

A discussion was held on a proposal now before the directors of the Institute to modify the initiation fee and the time for payment of Institute dues. It was directed that the Chapter's approval of this change be forwarded to the Institute.

The attention of members was called to the approaching Convention of the Institute in Washington, D. C., on April 27-28-29. It is desired that the Chapter be well represented by delegates and any who might possibly attend in this capacity were requested to keep the date in mind.

Miss Phyllida Ashley rendered several groups

of piano selections. Miss Ashley is recognized as an outstanding artist in the field of music and her performance afforded a pleasure of high degree.

The meeting was in nature a dinner and reception tendered to the newly appointed members of the San Francisco Art Commission.

Responses apropos of the expected functioning of the Art Commission and its influence on the ultimate beautification of the city were made by the following commissioners and guests: Lewis P. Hobart, Chairman, Mrs. Gertrude Atherton, Alfred A. Greenbaum, Emerson Knight, John Bakewell, Jr., W. W. Chapin, President of the City Planning Commission, Laurance I. Scott, President of the San Francisco Federation of Arts, and Capt. B. P. Lamb, Secretary of the Commission.

Urgent improvements which are important to the artistic welfare of the city were outlined by Henry H. Gutterson, President of the Chapter, and G. Frederic Ashley, Chairman of its Fine Arts Committee. This suggested program of beautification, as recommended by the Chapter, will be tendered to the Art Commission for its consideration.—J. H. M.

A $6000 HOUSE FOR $5000

With building costs now more than 25 per cent below the level of 1926, $5000 will buy a better type of house than $6200 did five years ago, Harry E. Leimert told members of the Oakland Real Estate Board. Mr. Leimert is chairman of the home building committee of the board, appointed by James H. L'Hommedieu, president.

A national survey of building costs conducted recently by the United States Department of Labor discloses that the construction cost of the average residence today is approximately 84.3 per cent that of 1926, Leimert's report states. This is the lowest figure reached during the five-year period and is regarded by those best informed as the lowest level building costs will register for many years. The report further states:

"Analysis of the local occupancy status shows an abnormal condition with two or more families occupying quarters designed for but one and with a vacancy ratio of less than 5 per cent, although a 10 per cent vacancy for single family homes is considered normal. This condition has already stimulated home buying in this community.

"An easing off of industrial inactivity, anticipated during the next few months, must inevitably expand the list of home seekers as it is this condition which has caused the doubling up of families. Adding to this influence the low construction cost factor, a stimulus to home building must result which will go far toward eliminating the existing unemployment of the city."

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TRADE LITERATURE

Hawaiian Cane Products, Ltd., a new company with head sales offices at 215 Market Street, San Francisco, Eastern sales offices at New York and a plant at Hilo, Hawaii, announces a new building material to be known as Canec, a high quality cane fibre structural insulator, which will be manufactured for distribution throughout the world. The new product is in the usual popular board sizes, ½ inch to one inch thick. Adequate warehouse stocks will be maintained by the company at strategic points, enabling prompt service to dealers in their respective territories.

The Medusa Portland Cement Company will be the distributors of products manufactured by the Studebaker Chemical Company of Elyria, Ohio. The products consist of rust-proof coatings sold under the trade name of Rust-oy. Merchandising outlets are situated in the major cities of the Central States, Latin America and nine other foreign countries.

Congoleum-Nairn, Inc., have issued a booklet illustrating and describing a new Sealex wall covering, a unique addition to present types of coverings. This folder has been arranged to fit architects' files and the Congoleum Company will be glad to furnish same upon request of their Kearny, New Jersey, office.

The American Face Brick Association, Chicago, have issued "Standard Grading Rules for Face Brick", a small handbook containing rules adopted by the Association and to be used as the basis on which face brick is sold.

A new bulletin has been published by the Roberts and Schaeffer Company, Wrigley Building, Chicago, illustrating "Zeiss-Dywidag", patent concrete shell domes and barrel shell roofs for permanent monolithic reinforced concrete large building construction. The bulletin is well arranged and illustrated.

The Leather Mat Manufacturing Company of San Francisco, have very clearly demonstrated in their new catalog recently issued, that it is now possible to secure any form of mat necessary for use in buildings, irrespective of type. One of their innovations is that they have constantly on hand standard sizes of leather mats used in recessed sections in front of entrance doors or elevator doors. In addition, they manufacture rubber flooring, wood mats and cocoa brush mats. A copy of this catalog, carrying a full list of stock sizes may be obtained by addressing them at 340 Sansome Street, San Francisco.

The following appointments have been announced by the National Steel Fabric Company, Pittsburgh, effective January first, 1932: C. B. Dugan, District Manager of the Los Angeles office at 607 Richfield Building, Los Angeles, and H. M. Wilson, District Manager of the Chicago office at 1118 Straus Building, Chicago.

The Turner & Seymour Mfg. Co. of Torrington, Conn., chain manufacturers, have purchased the Smith & Egge Mfg. Company of Bridgeport, Conn. Smith & Egge are particularly well known as manufacturers of sash chain. More than 40 years ago Frederick Egge invented an automatic machine for making sash chain which made possible the hanging of windows with sash chain and placed the manufacture of it on a commercial basis. Some years ago the Turner & Seymour Mfg. Co. started manufacturing sash chain after absorbing the Atlantic Chain Co. of Brooklyn, N. Y. The equipment of the Smith & Egge Mfg. Co. will be moved to Torrington but there will be no delay in filling orders through the Smith & Egge Mfg. Co. Division of the Turner & Seymour Mfg. Co. The sturdy quality of Smith & Egge products will be continued.

WASHINGTON STATE SOCIETY

Officers to serve during 1932 were elected by the Washington State Society of Architects at its meeting held Thursday evening, December 10, at the Gowman Hotel, Seattle, as follows: President, John S. Hudson, Seattle, re-elected; first vice-president, Julius A. Zittel, Spokane; second vice-president, Stanley A. Smith, Pullman; third vice-president, Robert M. Thorne, Renton; fourth vice-president, R. C. Stanley, Seattle; secretary, Lawrence S. Hauser, Seattle; treasurer, Harry G. Hammond, Seattle; trustee, O. F. Nelson.

An amendment to the constitution was passed, creating junior memberships for draftsmen and architectural students; these, however, not to have vote as regular members.

HOUSE BEAUTIFUL COMPETITION

Franklin Abbott, Waldron Faulkner, and Dwight James Baum, all of New York City, were the first, second and third prize winners respectively in Eastern division of the annual House Beautiful small house competition. In the Western division, Gordon B. Kaufman of Los Angeles was awarded first prize, Roland E. Coate, of the same city, second prize, and Austen Pierpont, of Osai, California, third prize. Honorable mentions in the Western division went to Roland E. Coate, Reginald D. Johnson, H. Roy Kelley, David J. Witmer, and Loyall F. Watson, all of Los Angeles; and John F. Staub of Houston, Texas.

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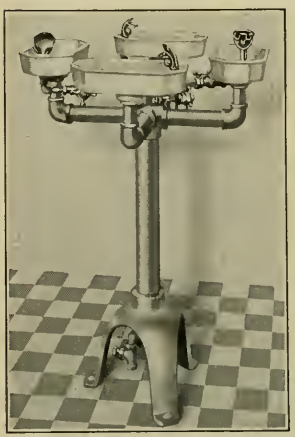

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SAN FRANCISCO BAY BRIDGE

Three kinds of suspension bridge are being considered for the San Francisco-Oakland transbay span, C. H. Purcell, State highway engineer, told the American Society of Engineers at its annual meeting held at the Engineers' Club, 206 Sansome Street, San Francisco.

He also disclosed that for the first time man had found out what is on the bottom of San Francisco bay.

Speaking as a member of the State Toll Bridge Authority, which will build the bridge, Mr. Purcell said three types of suspension bridge were under consideration between San Francisco and Yerba Buena island:

1—Two structures with 2300-foot main spans and 1150 side spans, to meet on a central pier.

2—One structure, with a 3800-foot central span and 1850-foot side spans.

3—Three continuous structures of 2300 feet each with two 1150-foot side spans.

The last is now preferred as the cheapest, though he said a decision could not be reached until the engineers had carried out their calculations.

Describing the minute care with which the borings are being made, the State engineer said these showed a submerged rocky ridge extending from the San Francisco bay shore to Yerba Buena island.

The diamond drills are driven into the rock from thirty to 100 feet.

The borings thus far show principally sandstone on the bottom of the bay with an occasional layer of shale.

The bay borings should be completed by February. Land borings, both in San Francisco and on Yerba Buena island, should be finished by March.

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FIVE HOURS AND TWO SHIFTS

A two-shift day with five hours to each shift will be recommended in all branches of the building industry by the California Building Congress, according to Frederick H. Meyer, chairman of the northern executive committee of the organization.

"We have found upon investigation," he said, "that the five-hour shift produces as much work in many instances as the eight-hour shift, so that the contractor and the industry lose nothing by breaking the day into two five-hour shifts.

"It increases employment without additional cost."

Mr. Meyer said the congress will urge 17 of the public utilities of this area to adopt the two-shift day on all construction work, and likewise to start and carry on whatever construction work can be done economically at this time.

"The building congress investigated the four-hour shift and voted against it on the ground that it doesn't give the working man involved a living wage," Meyer said.

The executive board approved a report from Frederick Whitton, chairman of the committee on building needs, calling on public utility groups to furnish, wherever possible, information as to the percentage of vacancies in buildings in northern California.

This information will be used to determine where new buildings are needed and the committee will endeavor to stimulate construction in the affected area.

The congress hopes to be of definite assistance in the employment crisis by making definite recommendations as to methods and plans for all groups in the building industry, according to Ernest Norberg, secretary of the executive committee.

Members of the executive committee are F. H. Meyer, chairman; E. Norberg, Charles Brock, W. E. Buton, H. J. Brunnier, C. H. Snyder, H. M. Walker, Alexander Coleman, J. G. Kennedy, W. H. George, R. G. Hooker, C. M. Gunn, C. R. Kingeland, J. Lester Miller and C. J. Struble.

FACE HEAVY LOSS

A loss of $2,000,000 and delay of one year in completion of Hoover dam project, will result if the Six Companies, Inc., general contractors, are required to comply with the Nevada state mining laws, prohibiting the use of gasoline trucks in construction of the four big diversion tunnels, attorneys told the Federal Court at San Francisco, hearing the contractors' application for a permanent injunction against the enforcement of the law in the Federal reservation at Boulder City. Electrically operated trucks, the only substitute for the gasoline trucks, the attorneys stated, are excessively expensive and inefficient.

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FEDERAL EMPLOYMENT OF PRIVATE ARCHITECTS

By Louis La Beaume, *Chairman*

THE Office of the Supervising Architect of the Treasury Department is still contracting with outside architects for the design of public buildings in various sections of the country. On December 1, the number of private architects now in the employ of the Federal government had reached a total of 220.

These employments have been made under a permissive clause inserted into the Keyes-Elliott appropriation bills, under which the present Federal building program of the Treasury Department is going forward. When these appropriations are exhausted the discretionary power granted the Secretary of the Treasury, for the employment of outside architects, will lapse, and presumably all future architectural design will originate in the Office of the Supervising Architect of the Treasury, as in former years, unless emergency authority be again granted the Secretary of the Treasury under future appropriation bills.

The American Institute of Architects, acting in collaboration with all major factors of the building industry, is sponsoring legislation providing for the employment of architects and engineers outside of the Treasury Department, and resident in the different sections of the country where Federal buildings are to be erected.

The purpose of this legislation is to bring to the service of the government the ablest professional ability in the nation. The country is entitled to such service. To restrict the designing of our Federal buildings to a single department, no matter how efficient, must inevitably narrow and stereotype our national architecture. Moreover, sharing the belief of a large body of public opinion that the growth of government bureaucracy should be checked, we oppose the further encroachment of the government into the field of private initiative. The government of the United States is no more qualified to design our buildings than to paint our pictures or to write our books.

A bill expressing these policies, and relating specifically to public works under the jurisdiction of the Secretary of the Treasury, has been introduced in the House of Representatives by the Hon. Robert A. Green, of Florida. It is known as H. R. 6187. The same bill, known as S. 2956, has been introduced in the Senate by the Hon. David I. Walsh, of Massachusetts.

By the terms of the bill, which are clear and specific, the Office of the Supervising Architect of the Treasury will be left free to function solely as a supervising bureau, guarding the interests

of the government in all practical necessities of its building operations and retaining its control over the maintenance, alteration, repair and supervision of all public buildings.

The bill will in no way alter or diminish the authority of the Office of the Supervising Architect of the Treasury over governmental expenditures for public buildings. That office will continue to exercise complete control over Federal contracts for public buildings, and will continue to act as the representative of the government in supervising the construction and erection of all Federal building projects under the jurisdiction of the Treasury Department. The personnel of that office will be left free not only to perform these functions, but also to prepare plans and specifications for those structures exempted by the bill, and for the performance of such necessary architectural and engineering work as may arise in the ordinary governmental routine.

The bill will, however, bring to the service of the government the abilities of men familiar not only with local conditions and customs, with climatic factors influencing design, and with regional methods of construction, but of men thoroughly conversant with the use of appropriate and economical materials.

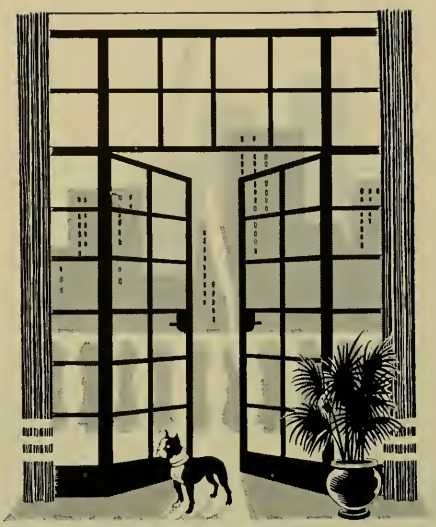
We are asking all Chapters and individual members to urge support of this proposed legislation by their representatives and senators in Congress. We have summarized the arguments in its favor, as follows:

1. That the country is entitled to the services of the ablest architects in the nation, and that their employment will result in a more vital architecture appropriate to the regions in which federal buildings are to be erected. To restrict the designing of our Federal buildings to a single department, no matter how efficient, must inevitably narrow and stereotype the expression of our architectural ideals.

2. We oppose the growth of bureaucracy as an infringement of our republican ideal of encouraging private initiative.

3. We believe that, in any emergency such as this, speed as well as efficiency will result from the prompt allocation of various projects to architects resident in the general sections in which public buildings are to be built.

4. The employment of architects outside of the Treasury Department, and residents in various parts of the country, will bring to the service of the government the abilities of men familiar, not only with local conditions and customs, climatic factors, methods of construction and appropriate and economical materials, but also men highly trained in design and capable of bringing a fresh point of view to the problems entrusted to them.



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WANT BUREAU ABOLISHED

Editor THE ARCHITECT AND ENGINEER: I am pleased to submit to you the returns in response to the letters of our President, Clarence H. Tabor, Jr., dated November 7th and 27th regarding the Architects' Small House Service Bureau and the continued control and endorsement of same by the American Institute of Architects and the United States Department of Commerce.

We are submitting only those of architectural organizations and not individuals. The replies of many organizations are pending upon coming meetings and routine order of business. Letters received from several Institute Chapter secretaries indicate that their Chapters will also fall in line with those that have already done so.

Those who have replied to date by letter or resolution as opposed to the activities of the Bureau and especially its endorsement by the A. I. A. and the U. S. D. of C. are as follows:

Hawaii Chapter, A. I. A.
Toledo Chapter, A. I. A.
New Jersey Chapter, A. I. A.
Kansas City Chapter, A. I. A.
Baltimore Chapter, A. I. A.
Central Illinois Chapter, A. I. A.
New Jersey Society of Architects.
Hudson County Society of Architects.
Union County Society of Architects.
New York Society of Architects.
Camden Society of Architects.
Westchester County Society of Architects.
Architects Club of North Hudson.
Long Island Society of Architects.
Brooklyn Architectural Club.
Staten Island Society of Architects.
The Architects League of Northern New Jersey.

Only one Chapter thought the Bureau worth defending, replying, "that after a brief discussion their opinion was that the A. S. H. S. B. as conceived and operated is still functioning in the proper fashion and manner" * * * This is similar to statements made for the Institute by Bureau officials and executives in the past.

It is significant to note that all of these replies were obtained without any personal solicitations or high pressure method speeches addressed to organizations or executive committees, but that they are purely voluntary and of self accord.

It is also significant that the entire state of New Jersey is represented by each and every architectural organization, including the Institute Chapter. This state is the seventh largest in population in the country and has an exceptionally large residential territory suburban not only to its own large cities but to Philadelphia and New York City as

well. Furthermore, the great majority of all of the architectural organizations of Greater New York City are similarly represented as in accord on this matter, representing a population and suburban residential territory exceeding that of any other state in the country. This comprises Westchester County and Long Island, which for years has given the architectural profession some of the finest examples of residential design.

These combined territories so strongly represented by the profession on this question are of more than ordinary meaning, due to the residential field which they represent. The rank and file of the profession at large have been able to observe and judge the results of the propaganda of the Bureau. They now render their decision.

At a recent conference in New York City, representatives of the organizations and many prominent architects opposed to the Bureau made known their desires in no uncertain manner to officials of the Institute, among whom were Robert D. Kohn, President A. I. A.; Albert L. Brockway, Regional Director A. I. A., and William Stanley Parker, President A. S. H. S. B. The latter stated that the Institute and the Bureau were both one and the same thing. When challenged on this question, he answered by stating that he did not intend to convey exactly that but that when the phrase "Conrolled by the Institute" was changed to "Endorsed by the Institute" it was the same thing in effect * * * The Institute wants the Government to get out of the architectural business. By precisely the same reasoning and logic it is desired that the Institute itself withdraw from the architectural business as in this connection.

We trust to hear further from your readers on this question through your publication and urge upon all organizations and individuals actively interested in this subject to cooperate with us.

Very truly yours,

HARRY LUCHT,
Secretary.

432 Palisade Avenue,
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DESIGNING FRATERNITY HOUSE

Walter Wurdeman, junior member of Becket and Wurdeman, architectural firm with office in the Brooklyn Building, Seattle, recently returned from a three weeks inspection tour in California. Mr. Wurdeman made a special study of fraternity house designs. The firm is preparing plans for the new Delta Sigma Phi fraternity house to be erected this spring at 18th Avenue Northeast and East 47th Street, Seattle.

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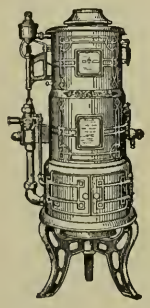

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INVENTION ABSORBS SHOCKS

Loy L. Smith, an inventor, 1506 W. 46th Street, Los Angeles, predicts that the new method of earthquake shock absorption in buildings will become universally popular on better acquaintance.

He states that the fundamental difference between the new method and the present trend is that of avoidance versus resistance, the latter being obviously futile in extreme cases since a major quake is irresistible.

The simplicity and economy of the method of avoidance is so outstanding that, but for the lack of scientific data at earlier stages, its adoption might well have dated back thousands of years; it being a fact that only in the last few years have scientists broadcast their findings on seismology in such form that the architect might add the exact condition to his fund of knowledge.

The device invented by Mr. Smith consists of a line of cleavage between the foundation and the superstructure, together with suitable anchors, and can be depended upon definitely to act as a shock absorber for shearing stress escapement. The action is most ordinary, yet the detail of parts is complex according to the variety of types of structures and cannot be clearly outlined here on that account.

The key to his device lies in the discovery, after years of research work, and the control of a new force, the kinetic energy of drift. The principle application is in masonry construction, more especially those housing large numbers of people, such as schools, hospitals and homes.

Efforts along this line have been made for the past sixty years but, as stated above, little working knowledge has been available as to the nature of seismic forces until brought down to us recently by the seismologists in their research work throughout the world.

Mr. Smith is the director of a Los Angeles earthquake research institute which is devoted to coordination of data of seismologists, architects and inventors as applicable to the science of building construction. Advancement along this line is a world demand and timely in that thousands of lives and untold millions in property values can be saved from destruction in this and future generations at slight additional expense.

He says: "We have stood on the fatalistic viewpoint that the results of earthquakes, being acts of God, might well be left to the account of The Almighty and have gone on with eyes shut to the disastrous results

"The era of earthquakes will pass just as the era of volcanic eruption is now passing, but the

former will continue to trouble us for some thousands of years and therefore it is up to the architect to guard against loss of life and property where quakes are apt to strike.

"Fires which follow seismic disturbances are sometimes recorded as inflicting far greater real damage than the shock. In such cases the use of shock absorbers which prevent shock destruction thereby stop fire.

"Shock absorbers can be applied to existing structures as well as to new ones. This opens a new field of employment to workmen in a field of universal demand."

Mr. Smith is compiling a complete text for the convenience of architects and builders.

OIL BURNER SHOW

A decision to enlarge the ninth annual oil burner show to be held in Boston, April 11 to 16, was made at the quarterly meeting of the directors in Boston recently. Heretofore, the show has been open only to members of the American Oil Burner Association which has staged the affair each year since its inception. Under the new plan the membership requirement for accessory or associate exhibition is waived. The privilege of exhibiting oil burners will be confined to members as heretofore.

The new arrangement is expected to result in many more exhibitors with the result that the show will be the largest in the history of the oil burner industry. Officials of the Association have prepared for the increased number of reservations by arranging to use the mezzanine floor of Mechanics Hall where the show is to be held.

Members of the Association already have contracted for considerable space, officials have announced, and with the new policy in effect it is expected that more interest will follow.

An added feature will be the use of live exhibits or burners in actual operation. This will be the first time in the history of the Association that facilities for such exhibits have been provided.

Headquarters have been established in the Hotel Statler for members of the Association who will hold their annual convention during the week of the show. Reduced railroad fares from all points will be available for those attending.

The general public will be invited to view the exhibits at no cost and an attendance of over 10,000 persons is expected.

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ENGINEER FILES PROTEST

M. M. O'Shaughnessy, city engineer of San Francisco, in a letter to P. F. O'Rourke of San Diego, filed with the city clerk of San Diego, disapproves the change in design of the proposed El Capitan dam from a rock fill to a combination rock and earth fill. Mr. O'Shaughnessy was the engineer on the Morena rock fill dam built by the city of San Diego in 1912. In his letter to Mr. O'Rourke he states that in November, 1924, he recommended in a report to a committee of San Diego citizens, the building of a dam at the El Capitan site.

In January, 1931, by request of a citizens committee, he appeared before the San Diego city council and advocated the construction of a "first class rock fill dam" at El Capitan. "I had no thought at the time of considering the substitution of a hybrid dam of composite materials," Mr. O'Shaughnessy said in his letter, although, he admitted "a composite dam of rock fill and earth, if adquate spillways are provided, might prove acceptable." However, he is "not inclined to favor this type of construction in the solution of San Diego's water problem."

UNIT PRICE BIDDING

Leonard F. Boyce, president of the Sioux Falls Construction Company, Sioux Falls, S .D., in an address to the Associated Contractors of South Dakota on "Bidding Unit Prices," declared the unit bid

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contract requires that extreme care be exercised in preparing specifications and bid blanks and in determining classifications and quantities, in order that neither party to the contract shall be unfairly treated.

In bidding on bridge work, Mr. Boyce said he found it advisable to prepare a lump sum estimate and then, if required to do so by the engineer, break it down into units. In advocating the use of this system, even in cases where a lump sum bid is not required, Mr. Boyce said:

"It may be argued and logically perhaps in some instances, that the unit bidding system saves the bidders considerable work and expense of preparing quantity surveys and that any bidder is thereby enabled to bid on more work than he otherwise could. This is perhaps true, provided he is willing to take snap-judgment on his unit bids, but it is equally obvious that such bidding is detrimental, not only to the contracting business and to industries dependent upon it, but to the owner as well."

ARCHITECTURAL CONTROL

Gains in architectural control were made by the nation in 1931, the outstanding example being that exercised in Washington, D. C., by the National Commission of Fine Arts, according to a report by Charles H. Cheney of Los Angeles, chairman of the Committee on City and Regional Plan-

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ning of the American Institute of Architects.

The most notable planning advance of the year, Mr. Cheney says, is found in the regional plans adopted for the New York and Philadelphia districts after several years of study. Westchester County, New York, is said to present "the most remarkably finished and most beautiful parks and parkways developed during the year." The work in Westchester is characterized as "one of the notable achievements in America."

Cincinnati is singled out for praise in city planning, the report saying that "few places in the country can show as well organized and consistent city planning progress as that of Cincinnati, and the surrounding Hamilton County."

"Never, as in 1931, has practical planning been of such conspicuous use to the United States," Mr. Cheney declares. "Fortunate indeed was the city, county or region of the United States which had its master plan far enough completed to be used as a guide for the millions of dollars of public funds now being hastily expended by public bodies for relief during the depression.

"For unemployment must be met, and sound municipal policy should encourage public works at such a time. It is to the credit of the country that so large a proportion of the bond issues and money spent during the past year and to be spent in the coming year will conform to well thought out and comprehensive city and regional plans.

"Of great significance also to the country is the increasing interest on the part of city planners generally in good architecture. Planning boards are at last beginning to take steps to conserve existing monuments and examples of fine buildings, both public and private. Architectural control is slowly but surely gaining attention."

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Washington points the way to what must be done in all American cities to insure reasonable decency of design, asserts Mr. Cheney.

"With only ten per cent of the buildings on the average in our cities designed by architects or others with any training," he adds, "we shall continue to be smothered and depreciated by ugly off-color structures until we set up in each city an architectural board with power to pass on plans before the structures are erected. The public has just as much right to be protected from the builder who is careless in design and color as from the one who erects a weak or unsafe structure."

Over a hundred new cities, towns, or villages are listed as having adopted partial or complete zoning ordinances during the past year. Piecemeal zoning by counties, that is establishment of limited building use zones in the parts of the county desiring it, is reported from a number of states, particularly from California, where every county is now required by law to have a county planning board.

Most of these zoning ordinances, however, are called very loose affairs. Only about fifteen or twenty per cent of them have been drawn with the help of a trained city planner.

Over 1,000 cities, towns and villages are now zoned, not counting the many county zone ordinances put in effect or pending. "Thus billions of dollars of property values are now at least partially safeguarded," it is pointed out. Important planning legislation was adopted in many states. Development of civic centers made progress, particularly in St. Paul, Cleveland, and San Antonio.

During 1931 study of the individuality of cities was made by the City and Regional Planning Committee of the American Institute of Architects, with the aid of a national advisory group.

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"There is an individuality in some cities which extraordinarily charms us," says a summary of the findings. "In others, unfortunately far more numerous, there is a character that bores or repels us. Practically always, where this individuality shows any degree of perfection, where it is attractive and stimulating, it is the work of some master architect or succession of architects, and consciously wrought."

The problem of individuality, charm and character in cities is architectural, and can only be solved by master architects, the report continues.

The deaths of Robert W. De Forest of New York and Senator Dwight W. Morrow of New Jersey are chronicled as marked losses to the planning movement during 1931.

"Both gave much and faithful service, not only to the regions where they lived, but to many parts of the country as well," the report comments. "Mr. De Forest's great contributions were to organization of cultural bodies in this country. Particularly did his many years as president of the American Federation of Arts, and of the Metropolitan Museum of New York City, make his going conspicuously felt. The country will long honor both these men for their many fine qualities and their constructive leadership."

IN NEW QUARTERS

Headquarters of the Pacific Coast Building Officials' Conference, located in Long Beach, California, for the past five years, have been moved to the I. W. Hellman Building, 124 W. 4th Street, Los Angeles. In view of the fact that the executive committee voted a number of months ago to permit the removal of Conference headquarters to Los Angeles when conditions were satisfactory, President C. D. Wailes, Jr., and Managing Secretary David H. Merrill decided to make the move at this time.

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CONCRETE INSTITUTE CONVENTION

The 28th annual convention of the American Concrete Institute will be held at the Wardman Park Hotel, Washington, D. C., March 1st to and including the 4th. The tentative program follows:

TUESDAY, MARCH 1

9 a. m. to 2 p. m.—Registration
2 p. m.—1st Session
Report of Committee 502, Arthur R. Lord, Chairman. Consideration of a motion to submit Tentative Construction Specification for Concrete Work on Ordinary Buildings.
Report of Committee 503, William F. Zabriskie, Chairman. Consideration of a motion to submit Tentative Specification for Supplying, Fabricating and Setting Reinforcing Steel on Ordinary Buildings.
Report of Committee 506, Arthur R. Lord, Chairman. Consideration of a motion to submit Tentative Construction Specification for Concrete Work on the Small Job.
"Problems in the Design and Construction of Concrete in Major Irrigation Structures" by Byram W. Steele, Civil Engineer, U. S. Bureau of Reclamation, Denver.
"Concreting Problems in the Chats Falls Power Development" by Col. H. L. Trotter, Fitzroy Harbor, and Wilfred Schnaar, Hydro-Electric Power Commission of Ontario, Toronto.
8 p. m.—2nd Session
"Special Finish Concrete Sidewalks in Washington, D. C." is the subject of a proposed paper for which arrangements are not yet complete.
"Cast Stone as a Means to Color in Architecture" by Fred R. Lear, Department of Architecture, Syracuse University.
Pittsburgh Bridge Design and Construction with Motion Pictures.
"The Design of Concrete Arches in Alleghany County" by G. S. Richardson, Assistant Engineer of Bridge Design, Bureau of Bridges, Department of Public Works, Alleghany County, Pa.
"The Construction of Concrete Arches in Alleghany County" by V. R. Covell, Chief Engineer, Bureau of Bridges, Department of Public Works, Alleghany County, Pa.

WEDNESDAY, MARCH 2

9:30 a. m.—3rd Session—Concrete Masonry
"The Structural Performance of Concrete Masonry Walls" by F. E. Richart, Research Professor of Engineering Materials, University of Illinois.
"The Effect of Mortar Strength on the Strength of Concrete Masonry Walls" by R. E. Copeland, Engineer Cement Products Bureau, and A. G. Timms, Associate Engineer Research Laboratory, Portland Cement Association.
"The Strength of Concrete Masonry Walls after Standard Fire Exposure" by C. A. Menzel, Portland Cement Association.
"Properties and Problems of Masonry Cements" by J. C. Pearson, Director of Research, Lehigh Portland Cement Co.
Afternoon
There will be no session of the American Concrete Institute in the afternoon; the period will be free for inspection trips, general sightseeing and committee meetings.
8 p. m.—4th Session
"The Design, Construction and Test of the Rogue River Bridge" by Albin L. Gemeny, Senior Structural Engineer, Bureau of Public Roads and C. B. McCullough, Bridge Engineer, Oregon State Highway Department.
Report of Committee 105, Reinforced Concrete Column Investigation, F. E. Richart, Chairman.
"Deflections and Vibrations in High Structures" by L. J. Mensch, Engineer and Contractor, Chicago.

THURSDAY, MARCH 3

Morning
The Bureau of Public Roads and the Bureau of Standards will be hosts to American Concrete Institute visitors, who will board busses at the hotel for the round trip.
2 p. m.—5th Session
Business of the Institute—
President's Address
Induction of officers.
"Studies of the Workability of Concrete," by T. C. Powers, Portland Cement Association.
"New Studies of Light Weight Building Materials" by H. Herbert Hughes, Building Materials Section, Bureau of Mines.

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"The Effect of Vibration on Concrete"—a progress report from Committee 106, R. F. Leftwich, Author-Chairman.

"Tests of Transit Mixing" by S. C. Holister, Professor of Structural Engineering, Purdue University.

FRIDAY, MARCH 4

9:30 a. m.—Sixth Session

5 p. m.—The 28th Annual Dinner

"The Mt. Vernon Memorial Highway"

Design—by R. E. Toms, Principal Highway Engineer, Bureau of Public Roads.

Construction—by J. W. Johnston, District Engineer, Bureau of Public Roads.

Proposed Specifications for Concrete Pavements for Municipalities—Report of Committee 902, Concrete Pavement Standards, F. C. Lang, Chairman.

"The Mortar Voids Method of Designing Concrete Mixtures" by Mark Morris, Iowa State Highway Department.

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MARCH 1932

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THREE THEATERS of outstanding design and interest are illustrated in this issue. Two of them, the Paramount in Oakland and the Fox in Spokane, represent modern tendencies, while the third, the Fox in Santa Barbara, is Mediterranean with some novel interior features. The auditorium is decorated to give an out-of-doors effect with stars twinkling from above and groups of Spanish houses to the right and left.

The Oakland Paramount is delightfully modern, quite different from anything we have seen on the Pacific Coast and unique for its startling facade of bright-colored tile. Splendid taste in design and color characterize the interior of this theater—Mr. Pflueger's masterpiece. Paramount is bigger than Oakland—it really belongs in San Francisco or New York.

B. J. S. Cahill, than whom there is no better architectural critic in the United States, has written the Foreword for the Paramount illustrations and his graphic description of the building reflects a sensitive appreciation and fine understanding of Mr. Pflueger and his work. Mr. Cahill, by the way, has been a valuable contributor to architectural criticisms on the Pacific Coast, dating as far back as 1900, when he wrote of the Phoebe Hearst International Competition (University of California), followed in 1901 by a review of the I. O. O. F. Columbarium in the San Francisco *Examiner*, and THE ARCHITECT AND ENGINEER; the San Francisco Civic Center, 1904; the work of Wright and Polk, Albert Pissis, Bliss and Faville, San Francisco City Hall competition, the work of Wm. H. Weeks and Henry Smith, all in the *American Builders' Review*, and the following articles in THE ARCHITECT AND ENGINEER: The Blaney Villa by Willis Polk, State Architecture, the Panama Pacific Exposition, the Portland Auditorium, the Masonic Temple, Bliss and Faville, Architects; Telephone Building, San Francisco; Miller & Pflueger, Architects, and 450 Sutter Street by the same architects. Mr. Cahill's articles, bound in a single volume, would constitute a valuable contribution to Pacific Coast architectural history.

⁂ ⁂ ⁂

TWO interesting numbers are promised ARCHITECT AND ENGINEER readers in April and May. Henry Carlton Newton and Robert Dennis Murray, whose ecclesiastical edifices in Southern California, are of outstanding interest, have promised to give our readers a portfolio of their recent work for the April number. H. Roy Kelley, distinguished architect of Los Angeles, will write the commentary and there will be plans to add interest to the presentation.

In May the *Annual House Number* will show many lovely homes up and down the Coast, designed by well-known architects.

JUST AROUND THE CORNER

Around the corner I have a friend,
In this great city that has no end;
Yet days go by and weeks rush on,
And before I know it a year has gone.
And I never see my friend's face;
For life is a swift and terrible race.
He knows I like him just as well,
As in the days when I rang his bell and he rang mine. We were younger then;
But now we are busy, tired men—
Tired with playing a foolish game;
Tired with trying to make a name.
"Tomorrow," I say, "I'll call on Jim,
Just to show him I'm thinking of him."
But tomorrow comes—and tomorrow goes;
And the distance between us grows and grows.
Around the corner—yet miles away.
"Here's a telegram, sir,"—Jim died today!
And that's what we get, and deserve in the end—
Around the corner, a vanished friend.

THERE seems to be a growing sentiment in favor of the A. I. A. discontinuing its sponsorship of the Small House Service Bureau, Inc. The New Jersey Chapter appears to have started something when it sent out a questionnaire several months ago asking the views of Chapters and architectural societies with respect to the Bureau's activities. Many of the replies would seem to indicate that the Bureau is no longer needed; that it has served its purpose by demonstrating to the public the need of good design in small house construction. This mission having been fulfilled, many seem to think the Bureau should step aside and give the individual architect a chance.

Commissons are few these days and architects who used to turn down house work, now are glad, indeed, to have even a small dwelling to design. Elsewhere in this issue is printed a full report of the New Jersey Chapter's campaign. The editor asked for an opinion from Robert D. Kohn, president of the Institute. A reply was received from his good secretary, Maud M. Acker, as follows:

"In answer to your letter of February 8th, Mr. Kohn asks me to quote him as follows:

"'I have always been interested in the Small House Bureau. I have not only thought it of great service in improving the design of small houses, and particularly for those owners who would ordinarily get their plans from a lumber dealer for nothing, but I have thought the Bureau was of great value as an educational medium. It seems to me there is no doubt that it has educated those who participated in its work; the criticisms of their fellow members have been of immense service to each of them.

"'Whether or not the time has now come when the potential benefits of the Small House Service, both direct and indirect, are outweighed by the actual or potential harm it may do to the private practice of architects is a contentious matter, probably to be debated at the coming convention over which, as president, I have to preside. I must therefore abstain from any comment on it.'"

⁂ ⁂ ⁂

THE country joins with President Hoover in giving assurance to timid hoarders of money that they should restore their funds to circulation and thereby increase the credit resources that are needed for the recovery of business and in meeting unemployment. It is pointed out that money hidden away produces no profit and that confidence has already been increased by the creation of the Finance Corporation.

"All right, let's quit hoarding," says the St. Louis *Times*. "Maybe there isn't a cent in the savings account; perhaps the old sock back of the clock is empty; possibly the pay envelope doesn't have so much in it as formerly—but there are some other things that count for just as much or more in life and it's entirely possible that all the poor talk has made us stingy with them. So let's stop hoarding and put back into circulation such things as human sympathies and smiles and neighborly kindnesses. We're all together in this thing, and the longer it lasts the less time it will be before it goes. Let's not be stingy with the little recognitions and appreciations that may help the other fellow to keep on going with his head up. Let us be generous with every little thing which will tend to make courage and hopefulness easier for our neighbors."

Ramona Roof Tile, skillfully laid, are always in good taste, add a distinct charm of form and color, and are the acme of permanence in roof construction. Above is shown a detail of Ramona Tile on the S. C. Fish home, Piedmont, California; Ray F. Keefer, Architect.

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MARCH 1932
VOLUME 108
NUMBER THREE

THE PARAMOUNT THEATER, OAKLAND

by
B. J. S. CAHILL, A. I. A.

FOR nearly a generation American Architecture has flowed in two streams not only bounded by separate channels but going in almost opposite directions. One tendency is to be stylistic and historical; the other, to be modern or futuristic. A curious feature of the first, is seen in what may be termed the summary or synoptical mode. In this the architect starts out to design a Tudor school, a Renaissance theater or a Mediterranean villa. He first assembles a photo collection of notable examples from England, Italy, France or Spain, picks out the striking features of each, separates them from their sober and sedate setting and crowds them together in one structure; a concentrated resume of practically all that was ever done in that particular style. The result, however stupendous, erudite or pictorial, somehow fails to register. It is all familiar, a threadbare, thrice-told tale. Perhaps this method of summary and synopsis really expresses a desire to throw down the whole stock in trade, bag of tricks or what you will, in one last gesture—old period stock going at bargain prices and at a sacrifice—to a public about fed up on the historic styles and their interminable adaptations.

On the other hand, the protagonists of the new art have had to create fresh forms as it were out of nothing: an entirely different and enormously more difficult undertaking.

However, youth, enthusiasm and genius take up the task, nothing daunted and perhaps at times with the valor of ignorance for no one can realize the inertia to be overcome, the endless labor, the failures and grief that waylay the doughty explorers of new territory.

We are going to describe briefly such an attempt which is not only a vindication of the spirit which dares, but a triumph of creative ability, the Paramount Theater of Oakland, California, designed by J. R. Miller and T. L. Pflueger, the architects of the Telephone Building, Four-fifty Sutter Street and the new Stock Exchange, all of San Francisco, and notable achievements in modern design which have already attracted world-wide attention and emphatic approval.

A modern movie-vaudeville theater in a large town must have central location, necessarily on high priced property. A building that does not need exterior light but does need isolation from street noises is best placed, therefore, in the dead center of a block, a long approach to it taking up the minimum of street frontage of say 50′ x 100′. This narrow frontage has just two things to do: admit and discharge the audience and advertise the house. It is logically, all doorways on the sidewalk line horizontally and, from the marquise up, all sign boards vertically. These are the important

two things to which all other details must be contributory. The entrance spot, therefore must be lighted with maximum brilliance for those already at hand while the theater sign overhead must be of the utmost magnitude to carry long distance all over town. A mere architectural facade

treatments suggest themselves and hundreds have been designed. Now the main object of advertising a theater is to confront the public with something utterly new, arresting and unforgettable. To do this calls for more than ingenuity, it demands genius.

The general tone of the walls is dark ivory, with figures in gold leaf. The pilasters are a few shades darker than the walls. The ceiling is a pale gray-green, with ornamental band surrounding it in gold and silver leaf.

MEZZANINE FOYER, PARAMOUNT THEATER, OAKLAND, CALIFORNIA
J. R. Miller and T. L. Pflueger, Architects

with a skeleton electric sign, apparently an after thought, is the usual device which shows how so many of our architects have failed to grasp the essentials and break away from conventions. In the Oakland Paramount Theater the solid sign is, with tremendous emphasis, the dominant motif. It is big and massive; thick, wide and the full height of the theater 120 feet. It boldly cuts the front into two sections: blank walls rising sheer and flat some 20′ by 100′ each. What would an intelligent designer do with these spaces? Hundreds of ornamental

A few people may take absolute delight in the very original solution of this problem at first sight, but no one can pass by and ignore or forget it, and that is the main objective aimed at.

The first impression imparts a bewildering sense of a colossal effigy in each panel: gigantic murals with many lesser figures, though of heroic proportions, imposed on these larger ones and all done in brilliant color on large glazed tesserae, mosaic fashion, bordered with a solid band of maroon or mulberry stained quarries on a field

of gold which constitute the holding tones for the whole facade.

While the meaning of these vast screens of brilliantly colored figures may seem at first obscure, if not bizarre and bewildering, it will prove upon study to be of extraordinary interest and of a significance and suitableness simply gorgeous in its perfectly fitting simplicity. For these two vast figures of a man and a woman, draped in embroidered folds of an Ionian chiton down to their feet, with their heads in a field of stars and stripes, are no less than personifications of the genius of drama and showmanship in all its branches. These figures have their arms folded and from their fingers hang a dozen strings which work the puppets and marionettes of the plays and the circuses, the spectacles and exhibitions which make up the subjects of popular entertainment from ancient to modern times: from Lysicrates to Morris Gest—from the spectacles of the Colosseum and the Field of the Cloth of Gold to the modern pageants, choruses and the spectacular marvels of Hollywood for all the world to enjoy comfortably, inexpensively and continuously by means of that modern miracle, the Sounding Silver Screen.

The walls are a dull coral. Bands surrounding ceiling, graded coral tones. Ceiling warm tan with light domes in gold and silver. Pilasters are a deep rose with incised ornament in gold and silver.

UPPER FOYER, PARAMOUNT THEATER, OAKLAND, CALIFORNIA
J. R. Miller and T. L. Pflueger, Architects

The two important interior requirements of a movietone theater, taking emphatic precedence of all others, are first that the spectators may see and second that the audience may hear.

The plan shows 3580 seats divided between the main floor and one large balcony. A section along the center reveals the upward curve of both floors to secure perfect views of the screen from each curved row of seats, while the plan indicates five aisles

Walls, grayish tan, ceiling panels in glazed over tones of green and lavender, and figures in gold and silver. Ornamental door frames at end of room are glazed silver. Carpet, deep mulberry.

Millwork by Pacific Manufacturing Company

MEZZANINE LOUNGE, PARAMOUNT THEATER, OAKLAND, CALIFORNIA
J. R. Miller and T. L. Pflueger, Architects

WOMEN'S LOUNGE.—Walls and ceilings are stippled grey-green; the walls in darker tone than ceiling. Ornamental bands and lines in silver. Carpet henna.

and four blocks of units each 2′ 10″ from back to back and from 19″ to 22″ wide: good roomy chairs of the most approved design and the last word in comfort.

The provision for good hearing, now of such supreme importance, deserve some special comment since it also determines the shape of the auditorium, its design and even the character of its ornamentation and artificial lighting. It is very important indeed, in considering the architecture of this well thought out theater to bear in mind the masterly grasp of the prime essentials towards which all subsidiary details contribute: the invariable earmarks of a work of genius. For none but a really first class mind can go directly to the root and core of any problem that engages its attention. The second class man is often beguiled into seeking certain subsidiary though desirable effects which he often achieves at the expense of the essentials, whereas the genius transmutes the essentials themselves into these effects.

The expression of this in the field of biology is called adaptation. The supreme

Wall piers, which are pierced by illuminated light panels, are red. The side-walls where mirrored niche occurs are gray. The ceiling beams are tan, and the patterns between are red and tan, with silver. Carpet is green.

Millwork by Pacific Manufacturing Company

GROUND FLOOR LOUNGE, PARAMOUNT THEATER, OAKLAND, CALIFORNIA
I. R. Miller and T. L. Pflueger, Architects

architect achieves it by evolutionary processes and scientific investigators of the works of nature never cease to dilate on and to wonder at them.

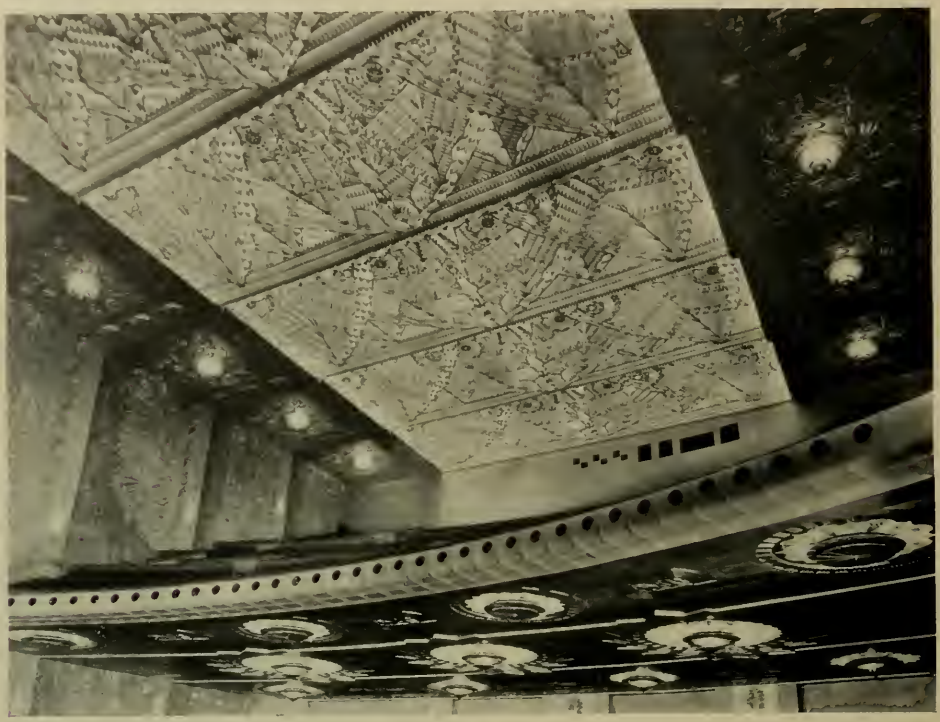
For example, good acoustics in a theater demand two things, sonority or resonance for massed volume of sound on the one hand, and absence of echo and reverberation on the other. Moreover, an effective auditorium should approximate the form of a horn, narrow at the source, thence widening out preferably with a general upward trend, since sound mounts upward as it expands.

Straight walls of concrete are very bad for both conditions. Being rigid they do not vibrate and being smooth and hard they send back sharp unpleasant echoes. It follows that the rectangular structural concrete shell of a theater auditorium must be supplemented with an inner false shell of plaster on wire which will give the horn curves to the enclosure on the one hand and supply also those vibrant walls corresponding with the wooden shell of a violoncello. But if the surface of this inner lining

MEN'S SMOKING ROOM—Walls and ceiling, Hungarian ash crotch veneer with Prima-vera trim. Floor tile in russet brown tones. Drapes, tan and silver. Illuminated frieze is opal glass

is also smooth it will still give back unpleasant echoes. The surface therefore must be covered with sound-absorbing, sound-interference material, like cloth or tapestry, or else have its surface uniformly broken up, scratched or roughened. Another acoustical rule forbids large openings in walls or ceilings, so that open side boxes and recessed skylights or very deep panels are also taboo.

In other words the main inner frame must have more or less curved smooth general surfaces free to vibrate, yet at the same time present these surfaces broken up all over into small corrugations. The walls and ceilings of the Paramount Theater are all thin and suspended: they curve both in plan toward the proscenium and in section down to it, while the floors curve up away from it, thus fulfilling the major demands of good audition. We now also begin to see the *raison d'etre* for the extraordinary incised glyptic decorations of the walls, the fluted "light columns" each side of the stage, the close grille screening the organ lofts, and the amazing "fin" formed illuminating panel which crowns the entire audi-



Ceiling is of metal fins illuminated from behind. Lights of various colors are projected against a flat plaster ceiling six feet above the fins and the light is reflected down through and against the sides of the fins.

AUDITORIUM CEILING, PARAMOUNT THEATER, OAKLAND, CALIFORNIA
J. R. Miller and T. L. Pflueger, Architects

torium from front to rear.

They are artistic, ingenious and original devices to preserve the general large scale smoothness of the interior shell and yet impart a small scale roughness to all the surfaces to the good acoustical end of resonance without echo; audibility without reverberation.

Thus we see that all the novel, astonishing and seemingly inexplicable features that give this theater its extra distinction are in truth merely the means to make it a

perfect auditorium from a purely practical point of view.

The great originality of these devices in their threefold function of yielding perfect light, sight and sound in an interior and giving it at the same time a decorative character quite different from anything ever

Color scheme same as on walls. Recessed fixtures are of "fin" construction similar to main ceiling.

BALCONY SOFFIT, PARAMOUNT THEATER, OAKLAND, CALIFORNIA
J. R. Miller and T. L. Pflueger, Architects

before done, surely calls for admiration and astonishment no less on account of its fitness and beauty than for the inexpensive simplicity by which these charming, exclusive effects have been brought into being.

The walls of the auditorium and their margin strips, as well as the soffit of the gallery, receive their surface roughening by boldly designed border ornaments and a field completely covered with low relief figures, symbols and arabesques giving a general sense of rich texture as of great tapestries, done however in a sort of gigantic sgraffito. There seems to be six or seven motives worked by a sculptor on very large, thin plaster slabs which are laid up one above another in the vertical panels defined by each set-off by which the theater is widened as we recede from the proscenium. They are suitably modeled in the quick bold manner of an adept: unpremeditated and without a trace of niggling, touching up or smoothing out, so dear to the artizan, so abhorred by the artist. The many human figures in the huge scheme which are repeated in unexpected places seem well proportioned in the mass and, though roughly done are utterly devoid of "Epstein" ugliness. Worked in a cork-colored monotone these great hieroglyphic bas-reliefs with their silver-gilt borders take on the varied hues of the general illumination as manipulated from the light maestro's switch-board.

The notable absence of tame, conven-

tional symmetries and mechanical repetitions of everyday architecture reveals itself in the variety and unexpectedness of all the details of these wall decorations. A notable illustration of this is seen in organ screen designs alongside the proscenium. These are defined by ascending fluted and

gorgeous chameleonic changes of color which literally drench the whole interior, perhaps the principal source of pleasure to the public, next of course to the picture on the screen.

The illumination of the Paramount Theater issues from three sources in the main,

Warm gray walls, with redish tint pilasters and illuminated glass panels. The ceiling surrounding domed section is tan, interrupted by silver fluted bands. The dome is silver with redish ornaments. The relief figure on the wall is in silver metal, as is also the trim throughout.

WOMEN'S LOUNGE, PARAMOUNT THEATER, OAKLAND, CALIFORNIA
J. R. Miller and T. L. Pflueger, Architects

reeded columns which curl and intertwine far overhead in interlacing volutes and branching spirals quite alluringly unsymmetrical. Over the proscenium the charioted Neptune and Wave motif is a model of free and rapid design broadly generalized to give accent to a dominant position without undue obtrusiveness and at the same time to leave no large surface too smooth and uniform.

But all the multitudinous modellings of the walls and ceilings, done as we have pointed out in the main for acoustical reasons, are subordinated as ornament to the

none of them, however, direct. These are the floriated and bulbous pendents at the side of the main auditorium ceiling and under the gallery; the "Columns of Incandescence" flanking the stage, and the huge and splendid "Canopy of Light" which dominates the roof from end to end.

By a most intricate and lavish system of concealed red, yellow and blue bulbs all colors of the rainbow can be blended and turned on in succession: sheer glowing crimson to fleshy pink: dark night—sky blue through royal purple to the most delicate orchid, deep sea and spring bud

green and every shade of jade. The whole threefold scheme of color works in unison and the variety of tones in which the whole theater can be saturated is something rich and ravishing beyond words.

The ingenious methods of indirect lighting transcends anything of the kind the writer has yet seen. The principle of the pendent throwing colored rays across the ceiling overhead is, of course, well known and in common use. But the columns of light aside the stage—a giant shaft of fluted incandescence, is new. It is of the order of a quarter circle pillar whose radius is 5 feet and height fifty feet. It is not of glass but of silvered sheet metal built up in alternate brackets of a printer's fount thus) ( ) (with an intermediate ogee section—all of which are placed vertically from floor to ceiling with open slots between. The lights inside shine through the crevices and illuminate the extruded silver surfaces with a softly graduated glow impossible to distinguish at a little distance from actual translucence. And then as the colors are gradually changed the columns too seem to melt from shade to shade and strength to strength by some protean magic as bewildering as it is beautiful.

The great "Canopy of Light" overhead is wrought with something of the same technique. The whole vast panel, or series of overlapping panels, is worked out on the ceiling plane with an elaborate grille of sheet metal surfaces twelve inches on edge. This, it will be remembered in the cause of good acoustics, is to break into small cellular pockets this otherwise too smooth surface. Through this colander of openings one looks at a white surface several feet beyond. From each side the light bulbs throw their colored rays which also suffuse the upper surface. Seen from below, the effect is quite startling because so unexpected and inexplicable. The light is reflected from all these shining silvery fin surfaces seen at varying angles and in different lengths of foreshortening giving optical illusions of rounded surfaces, modellings of color and effulgences of light utterly different from any result expected—illusions of illumination that baffle and bewitch you.

In serious and solemn buildings, like a church or a community mausoleum, the author has many times deplored the use of applique work and architectural scenery. He has contended that false inner furring to create stylistic effects masking the real beams, columns and curtain walls of the structure are errors of design. In such buildings there should be no boxed-in spaces, no hidden hollows, nor voids. Such devices in the theatre, however are commendable. First because outer solid walls without any openings anywhere except for entrances and exits are a necessity imposed by common sense and building laws. This alone effectually guarantees against conflagration dangers. The Paramount Theater proper has no outside openings, either at the sides or on the roof. And we have shown how a false inner shell is needed for acoustical reasons. Moreover the very essence of a staged exhibition is make-believe and scenery. Illusion after all is the Supreme Deity of Drama and the Show business.

In passing from the entry vestibule to the grand lobby we come straight upon a splendid example of theatrical make-believe. This vast chamber is entirely immured in a solid concrete box, 50 feet by 100 feet by eighty feet high. The part which reveals itself inside is about 40 feet by eighty feet by sixty feet and, strange to relate, has seven high windows on each side, and a huge grilled window at the front and all along the ceiling. These illusions are worked out with electric lights and a honey-combed grillage of silver fins as in the main Auditorium but substituting rectangularity of detail in the former for curvilinear lines in the latter.

The impression this lofty lobby conveys is magnificent, mysterious and unforgettable. A low base yet high enough to include the battery of entrance doors, extends all around of black marble continuously banded with horizontal silver bars. From this the tall windows with splayed jambs rise in regular rectangles of light. Both side groups are recessed in wide borders stepped up in four planes which continue from end to end. These longitudinal bands on each side account for at least a half of the total width of the room.

They give the sense of plain borders delicately striped with soft shadows of the offsets. These two plain window motives are of a dull red or cinnabar color, literally monotones of a slightly muddy vermilion. The single long central section in between from end to end is a highly illuminated field of embroidered green which descends at the grand stair landing to form a hanging archway to the balcony beyond while at the opposite end over the front doors it forms a verdant background for a great "Fountain of Light." The excellent illustrations showing both ends of this grand lobby express something of the extraordinary effect of this uniquely conceived hall —the architectural preludium to the theater beyond. The dominating motif is the huge green patterned panel of light hung as it were longitudinally in one great tapisvert of corrscating embroidery with borders of labyrinthine fret-work around a field of diamond shaped patterns and illusive stalactites of seemingly vitreous illumination, magically worked with patches and spiculæ of green light itself as though unseen lenses were focussing all the color of the forest on to a bed of monster crystals. The whole beaded glittering area does not however suggest the hardness of reflecting quartz but the softness and elusiveness of dappling sun beams filtered through spring foliage and falling on the rippling waves of a moss bottomed brook.

Architectural decorative design has something in common with both music and mathematics. It does not really picture actual things so much as the "logic of relations," abstractions, symbols and pure form: *"Mehr ausdruck empfindung als malerei"*—more expression of feeling than painting. When moreover a definite motif is highly symbolized and therefore denuded of material attributes, it begins to be already rather algebraic than pictorial. And when many of the patterns of life are stripped to their essentials, differences disappear and one symbol may mean many things.

"The Fountain of Life" over the main entrance is worked in six or seven planes of sand blasted glass. It purports to represent waves of water bubbling and boiling up from a center: rising higher and higher and finally curling over. Perhaps, since water falls in parabolas and not in sheer vertical lines, this imagery emerges as another picture equally effective in a hall of so much esoteric suggestiveness; the image of a high phantasmal Buddha. But whatever interpretation we put on this simply conceived device, its effect is amazingly impressive, and whether it is the spirit of water or the water flower, the lotus, or the Lotus deity himself is all one.

* * *

Of all the problems the architect is called upon to solve not one exceeds in complexity the planning of a modern theater. The work involved is enormous in proportion to the material used in the actual structure. To the ordinary tasks of planning are added those of advertising, acoustics, seating, heating, ventilation and innumerable subsidiary difficulties of lighting de luxe as well as the mechanical needs of the stage. All these alone make the task difficult and exacting, even when an accepted historical type of architectural design and ornament is adopted. But when we add to the many technical difficulties of a theater plan the need of absolutely creating a new style and type of design in which to invest these many findings of an expert technical mind, the task becomes almost superhuman.

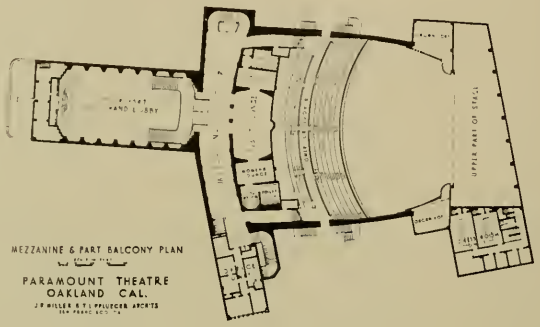
A diligent scrutiny of the blue prints of this Paramount Theater has filled the writer with astonishment at the problems presented and admiration for their masterly solution.. One has a natural reluctance to make too familiar with the hallowed word "genius." It is, in an architect, decidedly not the facile ability to make an impressive drawing, but to create a new masterly building, a building that shall fulfill the functions of its being down to the last push-button, yet at the same time produce those effects of inspiration that give perpetual pleasure to millions.

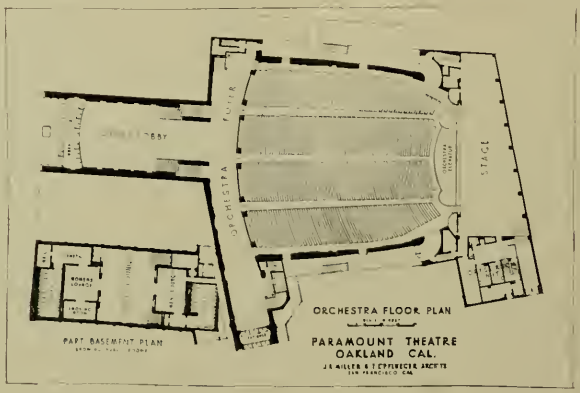
The Paramount Theater from these considerations is, therefor, unquestionably an architectural creation of positive genius. It is doubtful whether there is any other movietone theater at once so efficient, so well equipped, so beautiful and so original anywhere else in the world.

Photo by Moulin

GRAND LOBBY TOWARDS STAIRWAY, PARAMOUNT THEATER, OAKLAND, CALIFORNIA

J. R. MILLER AND T. L. PFLUEGER, ARCHITECTS





PLANS, PARAMOUNT THEATER, OAKLAND, CALIFORNIA
J. R. MILLER AND T. L. PFLUEGER, ARCHITECTS

GRAND LOBBY, PARAMOUNT THEATER, OAKLAND
J. R. MILLER AND T. L. PFLUEGER, ARCHITECTS

This view is towards the entrance. The silvery bands in side-walls carry through the black lacquer and etched glass doors. The illuminated feature over the entrance is of sandblasted and etched glass.

THE PARAMOUNT THEATER

Oakland, California

MILLER & PFLUEGER, *Architects*
GEORGE WAGNER, *General Contractor*

Cement—
SANTA CRUZ PORTLAND CEMENT COMPANY, Crocker Building San Francisco.
PACIFIC PORTLAND CEMENT COMPANY, 111 Sutter Street, San Francisco.

Reinforcing Steel and Steel Pans—
SOULE STEEL COMPANY, 1750 Army Street, San Francisco.

Lumber—
SUNSET LUMBER COMPANY, 400 High Street, Oakland.
E. K. WOOD LUMBER COMPANY, Frederick and Wood Streets, Oakland.

Millwork—
PACIFIC MANUFACTURING COMPANY, Monadnock Building, San Francisco.

Acoustical Treatment—
WAYLAND COMPANY, 563 Second Street, San Francisco.
JOHNS-MANVILLE CORPORATION, 159 New Montgomery Street, San Francisco.

Ornamental Metal—
MICHEL & PFEFFER IRON WORKS, 1415 Harrison Street, San Francisco.

Miscellaneous Iron—
DAHLSTROM METALLIC DOOR COMPANY, 3350 East Slauson Avenue, Los Angeles.

Main Auditorium & Lobby Ceilings, Marquis and Sheet Metal Work—
CAPITOL ART METAL COMPANY, Inc., 1129 Howard Street, San Francisco.

Marble—
VERMONT MARBLE COMPANY, 244 Brannan Street, San Francisco.

Broadway Tile Front and Interior Tile Work
GLADDING, McBEAN & COMPANY, 660 Market Street, San Francisco.

Roofing—
PARAFFINE COMPANIES, 475 Brannan Street, San Francisco.

Ornamental Cast Plastering—
AUGUST DAKERT & COMPANY, 1450-15th Street, San Francisco.

Vacuum Cleaning System—
WILLIAM J. FORSTER COMPANY, 355-4th Street, San Francisco.

Sprinkler System—
J. H. PINKERTON COMPANY, 927 Howard Street, San Francisco.

Electrical Equipment—
FRANK ADAM ELECTRIC COMPANY, 340 Fremont Street, San Francisco.

Theatrical Stage Equipment—
PETER CLARK, Inc., 544 West 30th Street, New York City.

Carpets—
W. & J. SLOANE, 216 Sutter Street, San Francisco.

AUDITORIUM, PARAMOUNT THEATER, OAKLAND

J. R. MILLER AND T. L. PFLUEGER, ARCHITECTS

Sculptured wall and ceiling panels. (Robert Boardman Howard, Sculptor). The wall strips are finished in metal leaf, the bands graded from copper tone to silver, using Varigated Leaf, Dutch metal and aluminum leaf. Columns along side of stage are of silvry metal sections with crevices between the over-lapping strips through which light is projected from behind. Ceiling, illuminated metal fins.

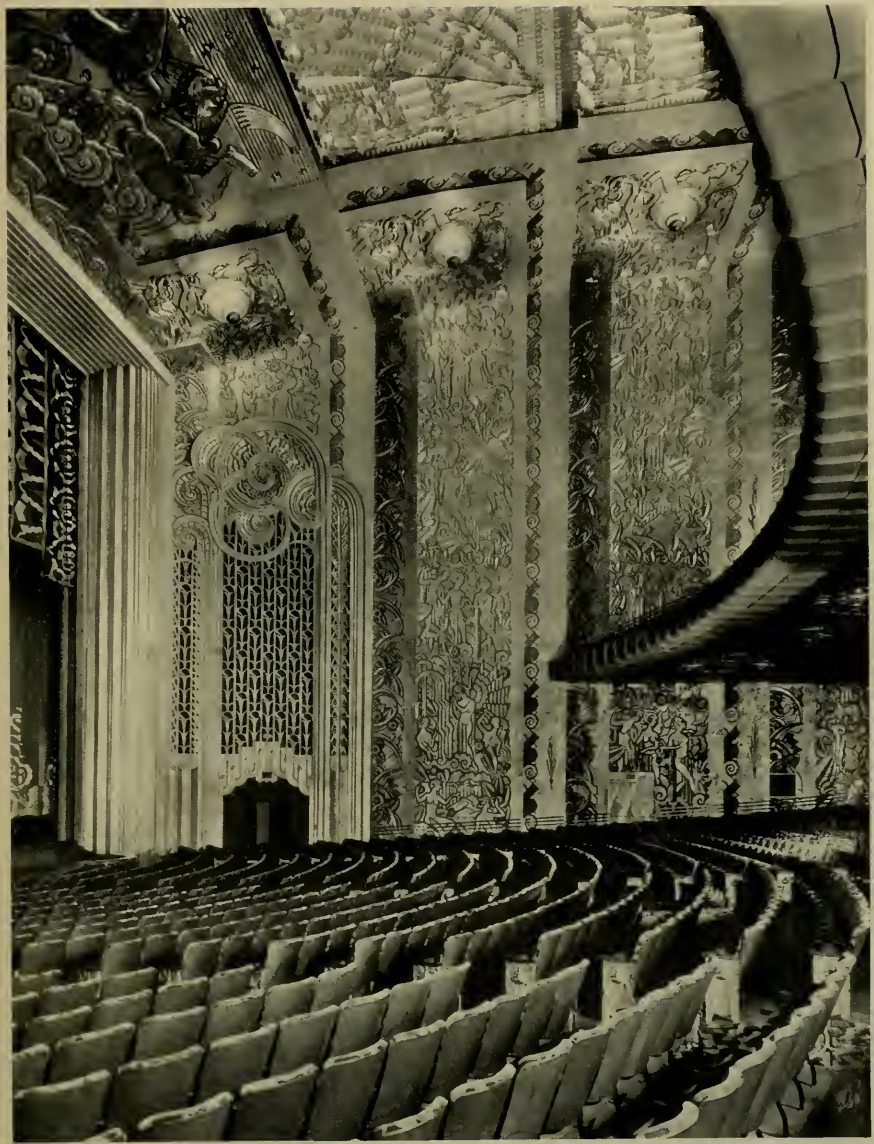


Photo by Moulin

DETAIL, SIDE WALL OF AUDITORIUM,
PARAMOUNT THEATER, OAKLAND, CALIFORNIA
J. R. MILLER AND T. L. PFLUEGER, ARCHITECTS

Photo by Lacey

DETAIL, FOX THEATER, SPOKANE
R. C. REAMER, ARCHITECT

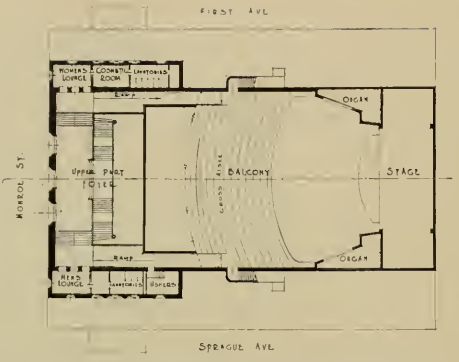
Photo by Lacey

FOX THEATER, SPOKANE, WASHINGTON
R. C. Reamer, Architect

THE FOX THEATER AT SPOKANE, WASHINGTON

by
R. C. REAMER, Architect

THE theater or playhouse has for its basic purpose entertainment, play. It is a place where people gather together for relaxation from the routine order of their lives and for participation in the joys, the happiness, the dangers, the thrilling excitements, the loves, the tragedies of those who in person, or in well-nigh as realistic pictures, appear before them. The theater therefore is essentially imaginative in its appeal, and its arrangement and its decoration should be in conformity with this fundamental characteristic. The playhouse is for play—for romance—for escape from the uneventful monotonies of life. As such, it is appropriate that its exterior suggest to the beholder the entertainment and the pleasure that is to be found within and invite his entrance to that happy place which the cause and humdrum dullnesses of life are safely walled away.



PLAN, FOX THEATER, SPOKANE WASHINGTON
R. C. Reamer, Architect

The theater is likewise a business and a commercial enterprise. It aims to make money. For the furtherance of this purpose the achievement of desired effects, of "atmosphere," of attractiveness, of comfort and of all those arrangements necessary for the care and handling of the audience without undue cost or excessive expense is, as always, desirable. It is very probable that the next decade will be more appreciative of this form of architectural cooperation than the past has been.

The accompanying views and plan are representative and probably sufficiently explanatory of the Fox Theater, Spokane, Washington, which was recently opened. The site of the building is in the central business district. Spokane has a warm summer climate but, like all of the country lying east of the Cascade range, experiences very cold winters. The concrete of the lower exterior was poured against wooden forms lined with fiber board, yet with such a spacing of the wooden formboards that their position is indicated in the concrete surface.

The walls of the main auditorium were poured with sliding forms, ten days of continuous pouring being required to complete the operation. The large butterfly panels of the Monroe Street facade are 9′-6″ by 12′-9″ in size; the projection or relief is 10″ from the plans of the wall. They were poured in place in plaster moulds and their concrete is integral with that of the remainder of the building. A finishing color coat was applied over the exterior to produce a uniform gray-white tone. Aluminum trim was used for the shop windows. Small clay tile of inconspicuous color were applied as a base course. The seating capacity is 2,500.

FOX-ARLINGTON THEATER, SANTA BARBARA

FROM the old to the new describes in a word the design and furnishings of the Fox Arlington Theater at Santa Barbara. Here the architect and artists have combined their talents to create a playhouse that breathes the romance of old Spain and early California. G. A. Martin, in a recent article descriptive of the theater says: "The new Fox Arlington is not the brain creation of an artist or an architect thrown together in a haphazard way to make it pleasing to the eye, but it is historically correct in all of the details, authentic and a counterpart of something, either a building, a piece of furniture, a decoration or a lighting fixture from the old world.

As one approaches the theater his attention is first rested by the beautiful marquise. It is an adaptation of Spanish canopy with a valance in metal around the lower edge cut to a Spanish design. On top of the marquise is a cresting of wrought iron scroll work with a wrought iron cartouche in the center. The whole marquise is painted white to match the exterior of the building. The reflector ceiling plan is executed in the design of a Spanish compass, and the points of this compass will show true direction.

The ticket booth is placed at the front of the Paseo, and is a composition of tile and hand wrought iron. The lower, or counter portion, is an interesting design in blue and gold tiles, carefully handmade in replica of antique 13th century Tunislan tiles, with all the irregularities and warped surface characteristic of those early craftsmen. The canopy is of wrought iron with bars opened into an old Sevellian pattern, running up to an iron frieze surmounted by a typical Spanish motif of a shield and supporting figures. The counter is entirely of colored tile with provision for two cashiers who have a built-in money vault between them.

Midway in the arcaded portion of the Paseo is a charming fountain such as is found in the smaller patios and interior gardens of certain noted Provincial Spanish villas, and closely resembles the famous pool of the Generalite, Granada, with its border of mosaic tile and rim of red tile on edge. These red tiles which stand on edge are joined with white cement the same thickness as the tile, and extend fourteen inches above the walk level, forming the outline of the fountain basin. The sunken basin is in brilliant colored tile, blue and green predominating. Flanking the walk on either side of the arcade are luxuriant semi-tropical plants. These make lovely outlines against the white walls in the background.

Above the entrance loggia on a background of clouds and sky is a mural of which Santa Barbara may well be proud. It was painted by Samuel Armstrong, the famous mural artist, himself, and is a thing of life and beauty. It depicts the various old Spanish dances which prevailed in Santa Barbara in the early days.

The entrance to the foyer from the loggia is afforded by five circular headed, richly panelled doors. The foyer itself is a spac-

ious barrel vaulted hall adapted from a room in the Castillo de los Condes de Percleda. From this vault are suspended three handwrought iron chandelliers each over six feet in diameter. These were hand forged especially for the theater from the architect's sketches made after a careful study of the early vigorous ironwork of the treatment and enriched by the hand-carved furnishings and elaborate wall hangings.

From either end of the foyer rise the two graceful main staircases. Dissimilar in their general design and unusual in character, these staircases are rich in tile and light intricate iron detail. The steps are bordered in tile and covered with deep antique gold

Photo by Woodcock

ENTRANCE LOGGIA, FOX ARLINGTON THEATER, SANTA BARBARA
William A. Edwards, Architect; J. J. Plunkett

fourteenth and fifteenth centuries. Supplementary light is supplied by wall lanterns of similar character. The lighting fixtures throughout the theater are unusually interesting as each was made from the architect's sketches for its particular place and in most cases are replicas of very fine museum pieces.

In character with the best Spanish work the hall is marked by the omission of ornate detail, and the impressive effect is obtained by the well-proportioned architectural carpet, giving a rich effect.

Continuing up the stairway past the balcony floor one comes upon the unique Clubo Chico,' which overhangs the projecting room like an old Monterey balcony. This room is entirely enclosed in plate glass. Here one may entertain a group of friends and see the picture without disturbing or being disturbed. Behind 'El Clubo Chico' is an open balcony overlooking the

city of Santa Barbara. This is furnished with stick reed tables and chairs. Here parties are served with luncheon, tea or dinner from the complete little kitchen adjoining.

Off the foyer, to the right, are the lounge and ladies' rest room. The lounge is typically Spanish, with its hand-carved walnut tables and chairs, and heavy davenports upholstered in antique velour. Carrying the same tones as the elaborately stenciled beamed ceiling and hanging above the big table at the right as you enter is a large hand-embroidered tapestry of Spanish design.

The breath-taking surprise comes when one passes from the richly furnished, well lighted foyer into what seems to be the moonlit plaza of some early Andaluvian village. (This is, of course, in reality the auditorium.) At the end of the plaza an old stone bridge spans a mountain stream. One can see for miles up this stream and far into the mountains beyond. The bridge is the proscenium arch, and the scene the asbestos curtain.

The arch of the bridge has a clear span of fifty feet and a rise of thirty feet, and is designed to accommodate the latest type of motion picture, known as the 'Grandure' screen. From the stage a flight of old stone steps makes it possible to cross over the bridge high above the heads of the audience, thereby permitting novel stage presentations.

The buildings, which surround the audience and from the plaza, are actual size in profile only. They reflect to a large degree the development of different types of archi-

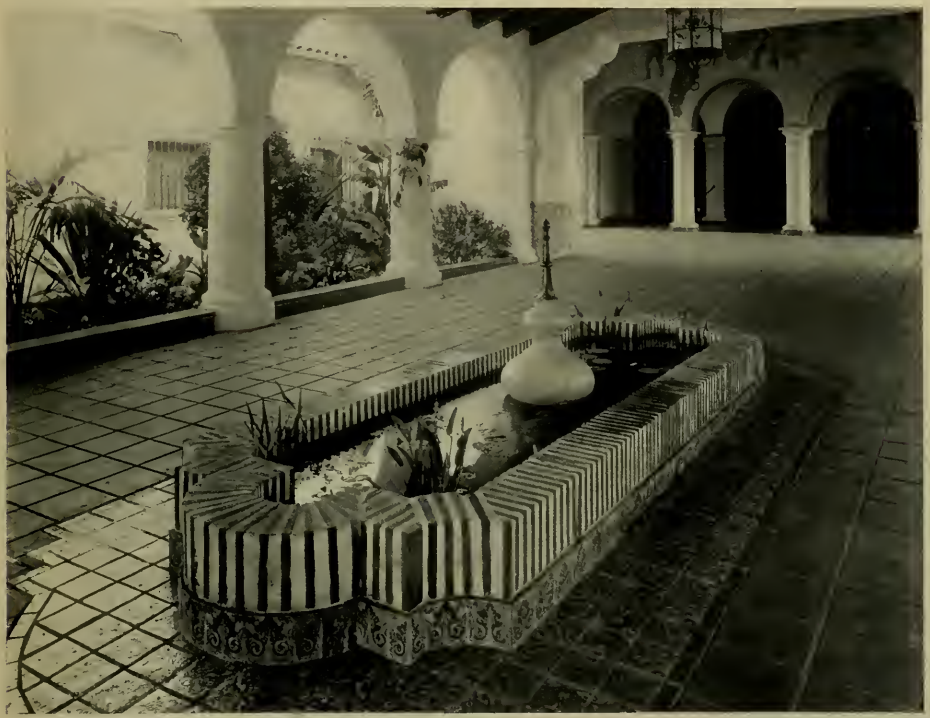


Photo by Woodcock

FOUNTAIN AND ENTRANCE LOGGIA,
FOX ARLINGTON THEATER, SANTA BARBARA
William A. Edwards, Architect; J. J. Plunkett

Photo by Woodcock

SIDE WALL OF AUDITORIUM, FOX ARLINGTON THEATER, SANTA BARBARA, CALIFORNIA
William A. Edwards, Architect; J. J. Plunkett

tecture in Spain and early California. They all, however, represent the romantic and picturesque side of Spanish life. The buildings themselves are complete in appearance to the last detail, with the roofs, chimneys, iron grill, weather vanes and even lighted windows. The lanterns which hang from the ceilings and walls are authentic copies of fifteenth century Catalonian street lamps. The potted plants in the windows and on the balconies add a realistic touch.

The elliptical vault of the ceiling, one hundred and fifty feet in length and one hundred feet in width, is constructed of light fabricated metal and covered with acoustical plaster of the latest type. It is colored a deep blue with cold water paint, and through the star-shaped openings in the plaster lights flicker on and off, giving a very realistic appearance of a moonlit sky. Contributing further to the moonlight effect are the dark shadows cast by the buildings and the silhouettes of trees against the sky.

The ends of the auditorium seats are an adaptation of Spanish benches that were used during the fifteenth century in and around Segovia. The carpet on the isles and the floor under the overhanging balconies was made especially for the theater to represent tile used during this same period."

John M. Gambol, who personally supervised the decoration, says:

"The interior of the theater is treated as a picture. It is assumed that the light comes from an unseen moon which is to the left and behind the bridge which forms the proscenium arch."

FOX ARLINGTON THEATER,
SANTA BARBARA, CALIFORNIA
WILLIAM A. EDWARDS, ARCHITECT; J. J. PLUNKETT

STAGE ENTRANCE, FOX ARLINGTON THEATER, SANTA BARBARA, CALIFORNIA
WILLIAM A. EDWARDS, ARCHITECT; J. J. PLUNKETT

THE UNION PASSENGER TERMINAL AT LOS ANGELES

by
GEORGE S. HILL

THE recent decision of the California Railroad Commission approving the plans submitted by the Southern Pacific Company for a union station at the Plaza in Los Angeles brings to a close one phase at least of the controversy as to the location and type of this station. At least fifteen years of litigation have ensued, relating principally to jurisdiction. Complaints were filed with the Railroad Commission in 1916 which asked that body to order the elimination of the grade crossings along the river and across Alameda Street and to require the Southern Pacific, the Santa Fe, and the Los Angeles and Salt Lake (now the Union Pacific) railways to provide and use a union passenger station. The jurisdiction of the Railroad Commission to order a union station was not at first questioned. The jurisdiction of the Railroad Commission to order a separation of grades was upheld by the Supreme Court of California June 11, 1917, which issued a mandate to the Commission to make an investigation of the entire matter. In 1918 and 1919 a body of engineers, of which the writer was one, under the direction of Richard Sachse, then chief engineer of the Commission, made a report, recommending the short viaduct plan of grade separation, and the location of a union station at the Plaza.

April 26, 1921, the Railroad Commission ordered the railroads to file plans for the erection of a passenger station at some site within a defined area in the vicinity of the Plaza. All residents of Los Angeles know that the Plaza is a small circular park which marks the center of the original pueblo of Los Angeles.

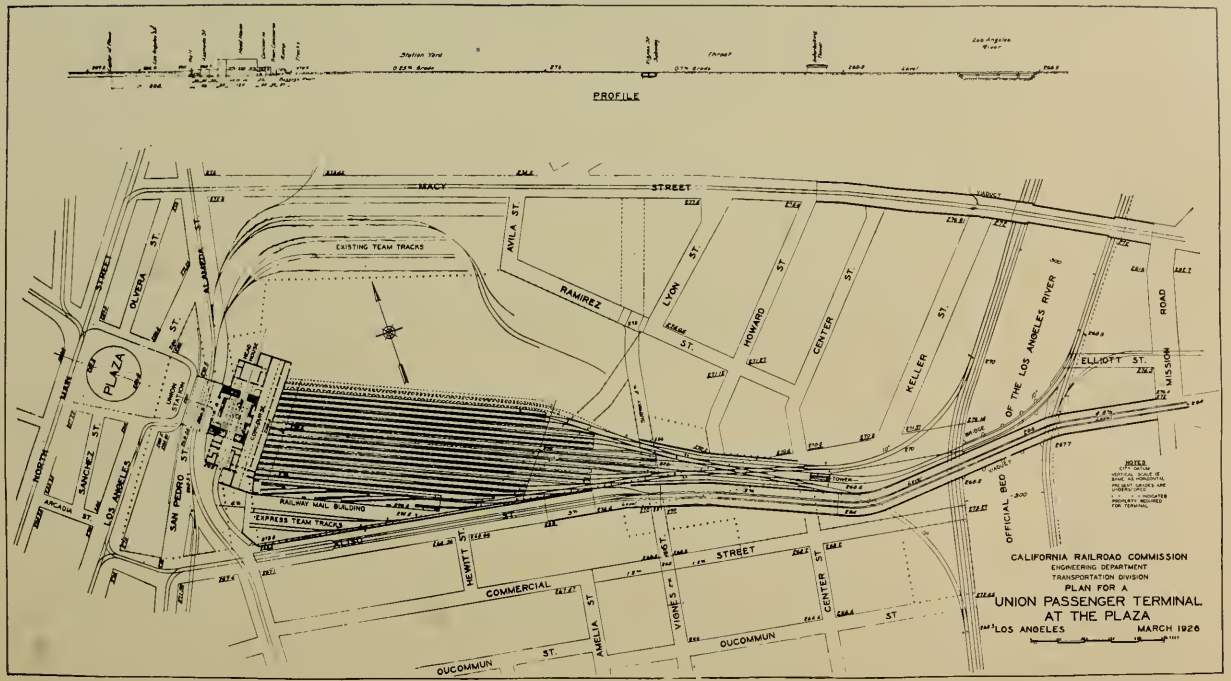
December 3, 1921, the Railroad Commission modified the previous order and directed the railroads to procure lands and to proceed with the construction of a union station upon approval of the plans.

December 19, 1922, the Supreme Court of California ruled that the Federal transportation act of 1920 vested full power and authority over the matter of union terminal facilities in the Interstate Commerce Commission and divested the Railroad Commission of California of jurisdiction. The City of Los Angeles thereupon filed a complaint with the Interstate Commerce Commission and hearings were held in July, 1923.

April 7, 1924, the Supreme Court of the United States affirmed the judgment of the Supreme Court of California and held that a certificate of public convenience and necessity from the Interstate Commerce Commission was necessary in the construction of a new interstate union station. All parties conceded that if the Interstate Commerce Commission had the power to require the construction of a union passenger station, it had been given that power by the transportation act of 1920. Prior to that enactment the power was clearly in the states.

Following the Supreme Court decision of April, 1924, the hearings before the Interstate Commerce Commission were resumed in June, 1924. In the hearings before the Interstate Commerce Commission the Railroad Commission was able to lay aside its usual judicial status and became intervenor

*Mr. Hill was formerly Structural and Railway Engineer for the California Railroad Commission.



PLAN FOR A UNION PASSENGER TERMINAL AT THE PLAZA, LOS ANGELES, CALIFORNIA

in the case, as the City of Los Angeles filed the complaint. As the railroads had filed no plans it became necessary for the Commission engineers to make a plan for a station within the specified area and to estimate its cost. Not only was it necessary to complete this work within the ten weeks between April 7 and June 20, 1924, but to prove the practicability of the location.

July 6, 1925, the Interstate Commerce Commission decided that while a union station was reasonably required, it had no power to order it, but that upon filing of an appropriate order by the Railroad Commission a certificate of public convenience and necessity would be issued.

April 5, 1926, at a special election the voters of Los Angeles declared in favor of a union station in the plaza area as against the railroads' plan of modifying the Arcade station and constructing an electric railway across the river near 6th Street.

August 3, 1926, the Railroad Commission en banc, reopened the hearings and concluded them August 11. At this hearing the same plan introduced before the Interstate Commerce Commission was again presented, but worked out in considerably more detail. This plan is shown in Figure 1. July 8, 1927, the Railroad Commission ordered the station built in accordance with this plan.

During the hearings of August, 1926, one of the attorneys remarked that the proceedings had already taken ten years and that we were about in the middle of it, and that our sons would probably carry on where we left off. That was over five years ago, and recent litigation over land titles may cause further delay.

One of the last official acts of Chief Justice Taft of the United States Supreme Court was to decide that the Interstate Commerce Commission, under the transportation act of 1920, could not order the construction of a union station. Its powers were permissive and not mandatory. It then became apparent that if the nation had not acquired the right to require the unification of facilities, the state never lost that right, and this view was upheld in both the State and Federal supreme courts. The final decision was rendered in June, 1931, and the State Commission's order then became effective.

January 18, 1832, the Railroad Commission approved the plan of the Southern Pacific Company for a union station conforming with the plan shown in Fig. 1 and disapproving a plan for a station of the through type.

The plan shown on the opposite page is purposely made devoid of non-essential details, as these would serve only to confuse the issue as to a dividing line of cost. It is reasonable to assume that such facilities as are essential for the station would be financed entirely by the railroads and that other features by way of embellishment of the approaches, if this is undertaken, would be financed by the city. It is my belief that it would be in order at this time to consider the collateral problems particularly the effect upon rapid transit features, the street plan and the Civic Center plan.

The rapid transit plans are of particular importance, and some modifications of the Kelker plan may be advisable, such as placing the Broadway return loop farther north and also in providing a connection between the Main and Hill street stations to permit through service. With suitable connections at the union station all parts of the metropolitan area may be readily reached by means of the Pacific Electric lines. This problem should be worked out even if the construction is not now undertaken.

The Vignes Street subway, connecting with Santa Fe Avenue, is in accord with the major highway plan, and San Pedro Street also is shown extended into Alameda Street past the station.

East of the river, Mission Road and Anderson Street are not interfered with as the Pacific Electric will cross them with separated grades.

Other street rearrangements as shown in the Civic Center plan of the Allied Architects are permissible as the station head house is exactly in the position of building No. 11 of that group, and is parallel with Main Street. This will permit the mission

court treatment then suggested, if a mission type of architecture is adopted, instead of a style of monumental proportions.

Each location has its inherent advantages and this site has the particular advantage of permitting the effective and convenient use of more than one level. A large part of the site is already owned by the railroads.

It would be next to impossible to give the names of all those who have at one time or another given painstaking thought to some phase of this problem with its many complexities from the legal, financial, engineering and architectural standpoints. More than twenty different union station plans have been drawn and much composite effort has been expended in endeavoring to reconcile the ideal and the practical, and to define the lines of authority.

LANDSCAPE ARCHITECTS OPPOSE GOVERNMENTAL BUREAUS

by
GEORGE D. HALL*

THERE can be no question that the practice of landscape architecture in supplying specialized knowledge toward determining the best use of land is an invaluable function of government, whether Federal, state or local. The economic and social welfare of the people is affected today and will be dependent, in the years to come, upon the wise solution of governmental problems in the use of our land.

Governmental agencies are now fairly well established to control the use of land through zoning ordinances and subdivision requirements, while more and more, official commissions are coming to recognize the need of being advised by those informed as to the science of planning and versed in the art of fitting land to its highest human use and enjoyment.

Landscape architects in permanent government positions are increasing in numbers, and are proving the economic worth of our profession in carrying on governmental activities. These facts are doing much toward giving our profession a much-needed publicity, and a fuller understanding of what Landscape Architecture really is.

Viewed from an economic aspect, the growth of the practice of landscape architecture as a function of government is of great value to the profession in that it calls attention to the profession; is of real governmental value towards solving those problems which require the specialized knowledge of the trained landscape architect; and is, of course, highly profitable to those who enter government employ. On the other hand, the American Society of Landscape Architects, which has striven so long to uphold the ethics of the profession and the art inherent in our work, should most properly interest itself in the economic problems confronting those who who continue *the independent practice of the profession.* With a growing membership in the Society, and recognizing the part the profession of Landscape Architecture should play as a virile profession, it is inconceivable that the best future for professional landscape architects *should be limited to the sole ambition of becoming permanent governmental employees.*

I propose now to discuss some economic aspects of independent professional practice in relation to the growth of governmental bureaus whose comprehensive ac-

*Editor's Note—Mr. Hall is a Fellow of the American Society of Landscape Architects. Paper was read at the annual meeting of the Society held in Philadelphia in February.

tivities are already a serious menace to the independent practice of the professions—including Landscape Architecture. First, I speak of the situation in general and then take up conditions actually existing on the Pacific Coast.

It is now generally recognized as an American principle that government should not intrude upon business activities to a greater extent than laying down principles aimed to protect the public interest. In recent years, however, there has grown up a tendency for the government—Federal, state county and city—to encroach upon professional activities to such an extent that the earning powers of those within the profession—*as independent practitioners*—are seriously affected. This tendency is more noticeable in the West than it appears to be in the East. Joint meetings have been held in Los Angeles between representatives of the American Institute of Architects, engineering societies and the Pacific Coast Chapter of the American Society of Landscape Architects, to discuss conditions and consider what might be done.

Let me now enumerate certain conditions that, in the opinion of many professional and business men, exist here in California and may soon spread to other sections of the country: First, the tremendous burden of taxation now borne by the people is to a very appreciable extent attributable to increase in personnel of departmental bureaus. Second, these bureaus or commissions, originally established as judicial, coordinnating or regulatory bodies whose primary activity was the protection of public interest, have so increased their functions as to include the active practice of engineering, architecture and landscape architecture, resulting in rapidly decreasing opportunities for paid employment of professional practitioners not in government employ. Third, not only are these bureaus or commissions, which are supported by general taxation, undertaking to do the planning of public works, formerly delegated to independent practitioners, but are, in some instances, supplying advice, services and plans without cost to subdividers or individuals who are entirely competent to pay for professional services.

It is significant that one planning commission in California whose director is a member of the A. S. L. A. for whose ability and character I have the greatest respect, has created a most efficient bureau whose activities have now increased to cover practically all phases of planning. Three years ago this commission was, for the most part, a judicial body, setting forth rules and regulations to protect the public interest in matters zoning, street extensions and subdivision standards. Today, this commission is a very important governmental bureau, with a competent landscape architectural department actively designing parks, airports, civic centers, public institution grounds, subdivisions, and in fact, any landscape architectural projects that might fall under the general classification of "those matters affecting the orderly growth and development of the county as one large commonwealth."

In bringing this illustration of government in the profession to the attention of the American Society of Landscape Architects, it is not the purpose to criticize the personnel of any commission or the legality of their activities, but simply to raise two important questions for our professional consideration: What will be the economic effect on independent practice within our profession should governmental bureaus absorb the field of landscape architectural activities; and second: Is such a governmental competition fair to the profession and will it not destroy the highest fulfillment of Landscape Architecture, both as a profession and as a fine art?

The professions of architecture and landscape architecture have long urged upon the government the need of judicial bureaus capable of protecting the public interest by setting forth rules, regulations, conditions and standards for public projects; but that the government should go so far as to create bureaus to actually design, plan, supervise and construct all public projects, and even private undertakings, requiring the specialized art and skill of the several professions, is manifestly wrong in principle.

ENTRANCE, MUSIC BUILDING, MILLS COLLEGE, OAKLAND, CALIFORNIA
WALTER H. RATCLIFF, ARCHITECT

MUSIC BUILDING, MILLS COLLEGE, OAKLAND
Walter H. Ratcliff, Architect

MUSIC BUILDING, MILLS COLLEGE, OAKLAND
Walter H. Ratcliff, Architect

ENTRANCE, ETHEL MOORE HALL, MILLS COLLEGE, OAKLAND, CALIFORNIA
WALTER H. RATCLIFF, ARCHITECT

Courtesy Southwest Builder and Contractor

HOUSE OF MISS STELLA SMITH, PALOS VERDES
Winchton L. Risley, Architect

CALIFORNIA ARCHITECT WINS MEDAL IN BETTER HOMES COMPETITION

THE gold medal for the best two-story house constructed in America between 1926 and 1930 has been awarded to Dwight James Baum, architect, of Riverdale-on-Hudson, N. Y., for the residence of Francis Collins of Fieldston, N. Y. The award was made in connection with the 1931 small house architectural competition conducted by Better Homes in America, of which President Hoover is honorary chairman, and Dr. Ray Lyman Wilbur, president.

The design of the prize winning house, the first to receive a medal in the two-story group, represented, according to the Institute's jury of award, of which Frederick L. Ackerman of New York is chairman, "a direct approach to the problem through simple means and the skillful handling of proportions, resulting in a house combining dignity and a homelike character."

In the one-story class the medal was won by Winchton L. Risley of Los Angeles for the home of Miss Stella Smith of Palos Verdes, a suburb of Los Angeles, "for a simple and altogether charming solution of the problem." The designs, the announcement said, were "of a distinctly higher standard" than those submitted in the first competition, held last year.

Honorable mention in the two-story group went to Windsor Soule and John F. Murphy of Santa Barbara for the residence of W. E. Risser.

Architects receiving honorable mention in the one-story class were Charles S. Keefe of New York City, for the guest house at Homewood on the estate of E. Hope Norton, Darian, Conn., and H. Roy Kelley of Los Angeles, for the home of Gilbert Bloss, Palos Verdes Estates.

Honorable mention in the story-and-a-half group was awarded to Waldron Faulkner of New York City for the residence of E. H. Corlett, Lake Katonah, N. Y.; to Winchton L. Risley of Los Angeles, for a house in Palos Verdes, and to Arthur Hutchason of Los Angeles, for a house for Mr. and Mrs. Herbert Hicks, San Marino. No medal was given in this class.

The purpose of the awards, it was explained, is to discover and call attention to the best small houses built during the given period and to stimulate interest in overcoming the faulty design and construction of the really small house. While the medal is intended as an annual award, houses entered in the 1931 competition were those completed between 1926 and 1930. Designs of houses submitted in one year cannot be resubmitted in later years.

Arthur B. Heaton, Irwin S. Porter and Waddy B. Wood of Washington, D. C., and William J. Sayward of Altanta, Ga., were the other members of the jury, which in its report said:

"While the designs submitted came from a very wide geographical area, many states were not represented. Considering the fact that the competition was open to houses completed between the years 1926 and 1930, inclusive, and that during the period, to the knowledge of the jury, many houses of excellent design were built, it is to be regretted that a larger number of submissions were not offered in competition.

"In the report of the jury covering 1930 it is stated that 'this being the first competition of the kind conducted by Better Homes in America, the jury was mindful of an unusual responsibility in respect to this first award which would in a measure establish a precedent as to quality of designs that should be premiated.'

"In confining the award of medals to the one-story and two-story classes the jury was of the opinion that the establishment of the medal standard in the story-and-a-half group might well be deferred."

Better Homes in America will sponsor a similar competition in 1932.

TO BE AN IDEAL ARCHITECT

by
WILLIAM ADAMS DELANO

MANY years ago before kings became soft-hearted and mushy, a certain emperor had delight in throwing the victims of his displeasures into an arena and watching them slowly devoured by lions. He generally diverted himself in this way on holidays and fetes. On one occasion, he had had a particularly happy afternoon—five or six victims had been eaten with relish—when the last, a mild-looking young man, was thrown into the arena. He stood with folded hands, and when the lion, a ferocious beast, approached, whispered something in his ear, whereupon the lion slunk away and took refuge in a far shadow of the arena. The same thing happened with a second lion, and again with a third. The emperor was angry but his curiosity was aroused. He commanded the victim to be brought to him and asked him what he had said to the lions. "A mere nothing, Your Majesty," the victim replied, "I only told them that after their dinner they would be expected to make a few remarks."

I am entirely in sympathy with the lions. I fear speeches — whether before dinner, after dinner, or where there is no dinner at all, and especially this afternoon for I realize how incompetent I am to discuss such an overwhelming subject as Mr. Jallade has assigned me. I am tempted to answer it in a sentence and let it go at that: The successful architect should know everything and should have a personality so strong that it pervades all his activities. But I am afraid this is too general an answer to satisfy this inquisitive audience. Perhaps the best way to discuss it is to try to define what a successful architect should be, and then attempt to discover how best he can arrive at that happy state. Personally, I wish the question had been framed to ask how a man may become an *ideal* architect rather than a successful one for what constitutes success is such a disputed question. With your permission, I will so change the phrase, believing that if anyone of you becomes an ideal architect he will be a successful one, and let each define success for himself.

If you take the measure of an ideal architect from what his client expects of him, you will find a very long list of virtues. I shall run over briefly some of these and because the list is long you must not be discouraged. We must remember that we are talking about the ideal and that is seldom if ever attained.

First. The ideal architect should have a strong but agreeable personality. He has to deal with draftsmen, clients, contractors, and subcontractors. If he has an aggressive or cocksure manner, he is most likely to antagonize and instead of gaining his point lose it. He should be persuasive but not unbending. He should have a logical mind and be able to present his arguments clearly.

Second. The ideal architect should have a broad general education: he should have a knowledge of the history of art and of political and economic history, with both

*One of a series of talks being given before the Junior League of the New York Society of Architects. Courtesy of *Pencil Points*.

of which art in all its forms is so closely allied; he should have a knowledge of physics, especially as bearing on engineering problems, and at least a rudimentary knowledge of chemistry, geology, and horticulture. If he can speak two or three foreign languages, he is just that much better equipped to expand his knowledge by reading and travel.

Third. The ideal architect should be a good business man for a large part of his time is taken up with business. He should know how and when to buy and how to adjust satisfactorily the differences sure to arise between the buyer, or owner, and the seller, or contractor. And most important, he should know how to sell his own services advantageously — when to yield a point and when to stand firm; this requires that he be a shrewd judge of men.

Fourth. He should be a very practical person, with a great deal of common sense, for as he practices his profession he will find more and more that it is not all pure design, beautiful conceptions of the brain, but such despised things as pantry sinks, radiators, gutters, floors, and kitchen ranges, which govern his client's estimate of him. Too often have I heard a client damn an architect by the amiable remark—"So and So is very artistic—he did a very good job for us—but he is *so* impractical. You know our windows have leaked ever since the day the house was built, and the flue in the living room—well, the less said about that the better." Of course this is obviously unfair, but the ideal architect must take note of such details, so important to the client, and see to it that each is perfect.

Fifth. The ideal architect must be an artist, never satisfied with what he has designed but ready always, even to the last moment before they are executed, to scrap his drawings if he feels the final result can be improved. He should be able to express easily on paper the ideas that are flowing in his mind, so as to convey them to draftsmen, clients, or builders. If he can make delightful sketches so much the better, for they often help to persuade the client to his point of view.

Sixth. Last, but not least, he should have a talent for making friends and holding them, for opportunities to do work come from friends. He must have much tact and no conceit or false pride and must remember what few artists do—that he is the servant of his client and his job is to give satisfaction without lowering his standards.

You see what a list of incongruous qualities I have set forth, but I believe that they are all essential to the making of the ideal architect as I have watched the practice of architecture for nearly thirty years. I have no doubt that I have even forgotten some that should be included, but the essential ones are there.

The question now arises—"How are we to acquire all these qualities and all this learning?"—and here I must confess myself baffled. Those of you who have had a college education and have taken advantage of it may have a certain lead. Just how much depends on what you were able to assimilate. This I know: that without an overwhelming desire to master your profession and reach its top it makes little or no difference whether you have been to college or not. I would lay my money on an ambitious office boy who was fixed in his determination to become a great architect rather than on a young man who had had all the advantages that money could buy but who felt that the world owed him a practice and a living.

I suppose we are all inclined to lean somewhat towards our own experience. In my own case, after I left college—where, by the way, I spent most of my time and energy in seeing how I could avoid work —I went to the Columbia School of Mines, the architectural division of which, in those days, was presided over by a cultivated gentleman beloved by all, Professor Ware. He had an idea that competition was an evil thing; that boys should work for the love of the working, without rivalry, and we were given what seemed to me then silly little problems, such as cutting a strip of paper into its most beautiful proportion, designing wall brackets to hold vases, etc. This was not my idea of architecture and I

spent a good deal of time in extra-curriculum activities. Among other things I went into a competition for a poster for Colgate's perfumes, in which I happened to get first prize. (I may add that though I received the prize my poster was never reproduced, while Maxfield Parrish's was.) This made me feel that I was destined to become a great decorative painter. After two years of this school, one hot Sunday in July I laid my ambitions bare to an old and wise friend, who knew all the architects and painters worth knowing. He said, "But you don't know what architecture is. Get into an office and find out what it is all about." So I knocked on Carrere & Hastings' door the next morning and was taken on, to draw out at small scale the plan which had been settled on at large scale —of the New York Public Library. The excitement of the competition, the friends I made among the draftsmen, and the amount of knowledge I acquired in what seemed an incredibly short time compared to that spent at school, convinced me that summer not only that architecture is a great profession but that the way to learn it is in an office—the old apprentice system. So I never went back to Columbia, and today I am convinced that this is the best way, if it can be supplemented and stimulated by competition on the outside, such as the Beaux-Arts Institute offers. As a means of learning the art of architecture, I doubt if any university can offer a curriculum which can compete with an office that turns out good designs, has an ample library and an inspiring personality at the head of the drafting force. It is not the easiest way but it is the most efficient because while one is learning design one is also learning the realities of architecture more than any school could ever teach. The school too often stresses the brilliant design, the plan that is beautifully rendered and well furnished, the elevation or perspective that stands out from its competitors because of some striking method of rendering—but this is not architecture. Architecture is the realization in stone and mortar of men's dreams and these dreams can only be made realities by a most painstaking amount of work upon details. The general conception upon which all these details hang can usually be most simply, even crudely, expressed—as the preserved drawings of Palladio and Peruzzi and a host of other great architects testify.

We have been talking until now about the art of architecture, pure and simple. But how about all those other qualities we said were essential to the making of an ideal architect? Again I refer to my own experience. While I was in my junior year at Yale, I, together with almost every member of my class, took a snap course in Biblical Literature given by the then president of the university, Timothy Dwight. Everybody took it because you never had to do any work and it came immediately after chapel, so if you had not had a very full night's rest you could supplement it without interruption for an hour. I am sorry to say I remember only one thing about this course—I must have been awake at that moment—and that is that Prexy Dwight said, "If you young gentlemen will read for but half an hour a day and keep a record of what you read, you will be surprised at the end of a year how many books you have read." I cannot say that I have followed that advice for three hundred and sixty-five days a year, for the past forty years, but I have done so consistently enough to have read a great deal, and if you gentlemen will let me hand on to you this very good advice, and if you will follow it fairly consistently, you can pretty well make up for any deficiency in your early education; and if you will go beyond that somewhat and map out a course of reading for yourselves covering the more important subjects, you will find yourselves at the end of a few years better read and better educated than most college graduates who have devoted their lives since graduation to stock-brokering and golf.

As I read this paper to you I am more convinced than ever that I am giving you no fresh ideas, no brilliant suggestions for immediate success in your art. In fact, I am more than ever convinced that there *are* no such brilliant suggestions to be given; that it rests with each one of you to find his own method for achieving perfection. What I have given you are only hints

from my own experience and some of these hints are not so easy to follow in these days of depression. For instance, I am sure it is easier today to get into a university, with all its examinations, than to find a job in an architect's office. But these days are not going to last forever and those of you who have a real ambition to succeed can find in the reading of books on history, biography, and science, in work at the Beaux-Arts Institute of Design, and in studying, from plates and photographs, the great masterpieces of architecture, a full day's occupation—all of which will stand in good stead when work revives. Architecture is a great profession, though this may not be the moment to say so: it adds to the riches of the world in a way that few others do, not always in dollars and cents but in forms that long outlast these. The lawyer and the doctor spend most of their lives in repairing mistakes: the architect, if he is a conscientious one, in warding them off. If he is the right man, he will be giving his clients and the world better places to live in, to work in, and to play in. By so doing, he helps to banish disease and misery and by creating beauty adds to the joy of life.

STRUCTURAL and MECHANICAL ENGINEERING

REVAMPING THE HEATING PLANTS OF OLD THEATERS

by
H. R. DENNY

THE scope of theater heating is an extensive one. It could not be dealt with in a short article. We are therefore limiting this to cover in a general way the small or average neighborhood house already built, and which is sorely in need of better heating and ventilating equipment.

There is often a wide variation of opinion as to the best temperature to maintain in cold weather. In a theater where a person is inactive it should be 67 to 72 degrees Fahrenheit.

The basis for determining the amount of heat necessary is a most difficult point to settle. In northern climates the outside temperature occasionally drops to 10 degrees below zero, and in Minnesota, Dakota and Montana it goes even lower than 30 degrees below zero. If a plant is designed for these extremely low temperatures, it is too large for the conditions prevailing for 95 per cent of the year. It therefore becomes a question of very fine judgment as to what should be the basis upon which to figure. It is suggested that a reliable heating engineer be consulted.

In most of the existing small theaters, there is either inadequate heating surface or no means for providing constant positive circulation. Through the development of the unit heater it is now possible to heat up the room much more quickly than with the sluggish circulation of direct radiation.

A unit heater is a combination of a heating element or small radiator and a two or three-speed electric fan, constructed so as to have a common enclosure or casing. The face or discharge of the unit is usually provided with louvres for directing the path of the heated air. When properly piped and wired for supplying the steam and electric current, these single units are all the apparatus necessary for providing, directing and controlling the necessary volume of air heated to the proper temperature for the purpose.

Heating is accomplished by forced circulation of warm air throughout the room. The units occupy very little space and can be mounted in out of the way places where they will not interfere with aisle ways or valuable floor space. The heating effect can be regulated and both started or stopped by simply turning a switch. Control can be made entirely automatic through steam pressure as well as room temperature.

Unit heaters can be used for venti-

lating as well as heating, by providing a connection to the outside. This connection should be so arranged that the incoming air, which would be at a lower temperature, could be mixed or tempered with the inside air. This could be accomplished by using a mixing box equipped with a gate or damper so that the desired mixture can be obtained.

The unit heater makes it possible to heat the theater entirely by this method, or by adding to the present system, to shorten that warming up period before the opening performance.

With direct cast iron, or pipe radiation, in order to get the theater comfortable it is necessary to fire up at least four or five hours before opening time. By the addition of one or two unit heaters, this time can be reduced more than one-half, thus saving both fuel and labor. When the performance starts, the motors of the units can be stopped. The radiation will then carry on until the evening performance, or closing time.

In planning a system of this type the following points should be considered:

1. Heat Requirements: Heat is lost from a theater proper principally by transmission through walls, glass, floor and roof, together with infiltration through lobbies and doors. If a ventilation system is installed and used during the heating season, the capacity of this system should also be figured. The amount of these losses varies with the difference in temperature inside and outside the theater, the dimensions and construction of the building, the velocity and direction of the wind, and other factors. In making an accurate estimate of heating requirements, all of the above sources of heat loss must be considered. Such a calculation involves quite a little detail. However, in order to obtain a rough idea of about how many units would be required the following procedure could be pursued:

Determine the cubical contents of the room and select units to give the following air changes:

Three or four walls and roof exposed—six air changes per hour.

One or two walls exposed or three or four walls and no roof—four air changes per hour.

One or two walls and no roof exposed—three air changes per hour.

Very little exposure, that is all walls and ceilings practically closed in—three air changes per hour.

This method is for a rough estimate and approximately only. It should be checked with your heating contractor or the heater manufacturer.

2. Selection of Proper Unit: One of the principal factors in determining the size of units is the degree of quietness of operation. This applies particularly to a narrow building and where "talkies" are exhibited. The selection of the unit should be based on the velocity of the air through the heating element, together with the speed and type of its motor. These two factors are much more important than the number of units to be installed. A unit which would be entirely satisfactory in a garage or machine shop might create a disturbance in a theater. Most of the older and more reliable unit heater manufacturers publish a chart which indicates the sizes and speeds they recommend for theater heating.

3. Number and Location of Units: After the proper unit has been selected, its air capacity divided into the air change necessary will determine the number required. It is impossible to make any fixed rule for the location of the units that will apply to all small theaters. Generally speaking and for best operating economy the units should be located as low as possible but not so low as to blow directly on the audience. The low velocity and high temperature units required in an installation of this nature should not be located over seven to nine feet above the floor.

Due to the usual high ceiling of the average theater, a recirculation ducut or box should be provided so as to provide more uniform temperature. These ducts take the cooler air from the floor to the heater for reheating. The air drawn from the floor must be replaced by warm air from the upper levels. As the air entering the unit is lower than when air is drawn directly into the heater from a higher level, there is

[Concluded on Page 57]

SAINT BERNARDINE HOSPITAL, SAN BERNARDINO
I. E. Loveless, Architect and Engineer

NEW ST. BERNARDINE HOSPITAL HAS MODEL HEATING PLANT

by
ELLIOTT TAYLOR

THE St. Bernardine Hospital, San Bernardino, California, completed late in 1931 at an estimated cost of $650,000, is one of the most modern and ideally equipped institutions of its kind in the country. Included within the six-story structure are one hundred and twenty-five beds, five surgery rooms, laboratories, administration quarters, rooms for resident physicians, and nurses, visitor's apartments, six solariums, a main kitchen and four diet kitchens. Two of the surgery rooms are for general cases, one for special work, and another for a surgeons' clinic with theater for medical students and visiting surgeons. On the fourth floor is the obstetrics department and nursery.

Institutions pertaining to the welfare and comfort of the public naturally necessitate equipment and appearance conforming with the basic idea underlying their construction. And particularly is this true of hospitals, in which lives are often dependent upon both human and mechanical means.

Both in construction and equipment, the St. Bernardine is an outstanding accomplishment. Its architectural, structural and mechanical features were under the professional supervision of I. E. Loveless,

architect and engineer.

A notably successful part of this structure is the heating plant. Breaking away from the orthodox idea of high pressure boilers to furnish all heat and power, Architect Loveless divided the plan of engineering to a more logical basis. Low pressure boilers operating between two and five pounds were selected to transmit only one boiler need operate in mild weather to furnish steam heat and hot water.

To fully assure the quiet and efficient operation of the heating plant, the plans included vacuum pumps in duplicate. One of these will care for the full load, while the other will serve as a standby in case of emergency. Over 6300 sq. ft. of radia-

GAS FIRED BOILER PLANT, ST. BERNARDINE HOSPITAL
I. E. Loveless, Architect and Engineer

the necessary avenue for steam heating and providing water supply.

Two gas boilers generate steam for heating and hot water. Both are automatic, regulating steam pressure, gas pressure, gas consumption and temperature control of hot water tank, with fool proof operating devices. They are cross connected, their operation having been planned so that either boiler could carry the full load in case of a break in one. By means of piping and regulating devices, tion have been installed, using exposed cast iron radiation of hospital pattern in the rooms and concealed copper fin radiation in operating rooms and hallways.

Mr. Loveless engineered the equipment for the requirements of sterilizers, main kitchens and dietetic kitchens by means of two gas-fired automatic high pressure boilers, operating 60 to 70 lbs. steam pressure for the varied requirements. Duplex boiler feed and condensation pumps were installed in connection with the boilers,

controlled by mercoid switches on each boiler.

The boiler house is separated from the main building by a distance of about 75 feet, connections being made by means of an underground pipe trench.

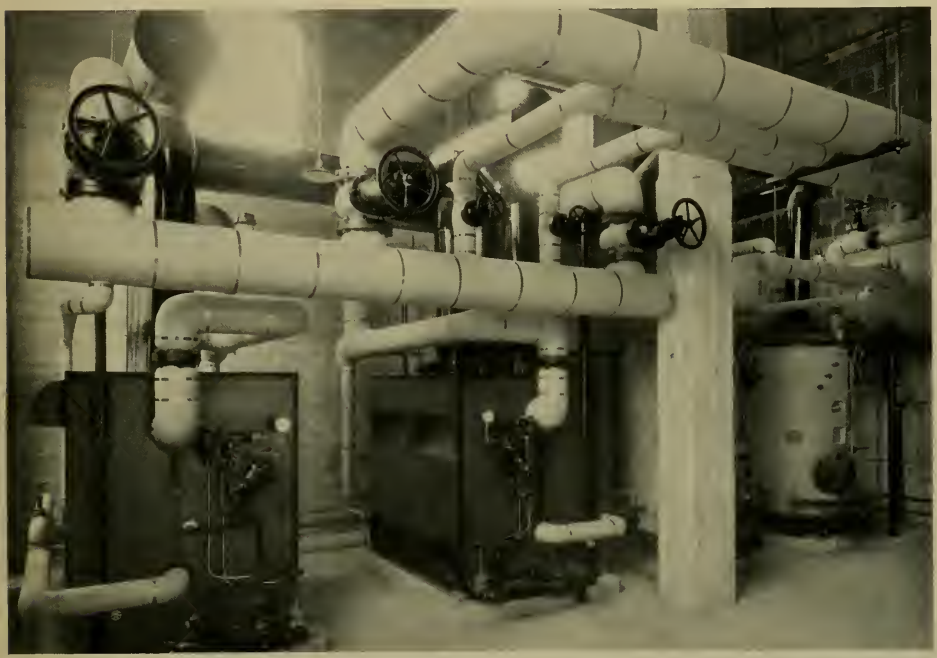
The selection of gas fuel for this plant was due to its ability to be automatically controlled with a minimum of attention.

REVAMPING THE HEATING PLANTS OF OLD THEATERS

[Concluded from Page 54]

less tendency for the air to rise after leaving the heater.

In many cases even better results can be realized by reversing the unit, that is, by facing it toward the recirculating box so that the warm air is discharged at the floor level.



INTERIOR OF BOILER PLANT, ST. BERNARDINE HOSPITAL
I. E. Loveless, Architect and Engineer

All equipment is duplicate, making the entire plant flexible in operation. The fact that little attention is required enables the engineer in charge to attend to other duties which keep him out of the boiler room a considerable portion of the time.

Emerson & Keeler, heating and ventilating engineers of Los Angeles, had charge of the installation of the heating system and high pressure piping, together with the boiler room equipment to conform with the plans.

4. Piping and Boiler: In an heating system the boiler and piping are most important in order to obtain satisfactory results. Both mains and returns should be of ample size to handle the steam and condensate rapidly. Boilers must be of ample size to deliver to the unit the required rated heat load of that unit and also handle the radiation loss from the piping.

5. Pressure and Temperature Control: Overheating necessarily means waste. Automatic control, therefore, which maintains an even temperature prevents this waste and effects a saving much greater than might first be imagined. When the fan is stopped, the heat output is reduced to a small fraction of normal. The problem of control is, therefore, simply one of starting and stopping the fan motor when the air temperature falls below or rises above the desired degree. In addition to fuel saving, automatic control saves current when the fan is not running.

The above details cover economical suggestions intended primarily for existing theaters. In the past it has been generally understood and accepted that the ideal and modern central fan system, capable of ventilating and either heating or cooling a theater, involved an expense that could only be justified by a large house. Today in the smallest theater it is entirely possible and practical to install a complete central system equipped for and capable of doing all of these. In fact it is much more satisfactory than having a separate piece of equipment for each duty. The chief and principal question in a complete system of this type is how much cooling and heating effect will your client or can your client pay for?

Is The Architect An Outsider?

Abstract of an Article
by William E. Willner
in the American Mercury

IT is a frequent complaint that the architect has not taken sufficient cognizance of the revolution in structural methods. He is pictured as a mere decorator of the engineer's handiwork, and not as a very successful decorator at that. With his eyes fixed on the dead past—so it is alleged—he creates designs which are irrelevant even when handsome, and which serve only to conceal the beauties proper to the tower of steel.

The more radical critics even go so far as to suggest that the engineer, if left to himself, would bring the skyscraper to a definite expression much faster than he can with "outside help." An analogy is drawn between the steel building and the automobile, and the architect is cast in the same ignominous role as the designer who tried to make the new vehicle look like a horse-drawn carriage. The inference is, of course, that the architect does not understand modern construction, and that he is blind to its aesthetic possibilities. The engineer may not be any less blind, at present, but if he is left unhampered he will surely blunder into an appropriate, a predestined result. So it is argued.

The theory has its amusing side. In this intensely practical age, when the client's esteem for the architect so often hinges on his success in keeping building costs at a minimum, it is reassuring to find that he is still regarded in some quarters as an artist, unconcerned except as to the appearance of his buildings. There is the flattering implication that in spite of the vast multitude of details which make his lot harder than that of his predecessors, he has nevertheless impressed somebody with his honest desire to secure a beautiful result.

But it is not so pleasant for him to find his efforts regarded as "outside help," his handling of the design as "superimposed aesthetics." If his conscience troubles him on any one point more often than on others, it is because he has had to give so much attention to the details of finance, of economical construction, of mechanical equipment, and of other practical desiderata, that he has had less and less time for the specific problems of design.

If the analogy with the automobile may be carried farther, the architect must be compared to the manufacturer who assembles a car instead of building all its parts in his plant. The engine, the starter, and all the other details may be designed by experts in their respective fields, but the assembler is not thereby released from the necessity of knowing how they all work and how they should be put together to secure the best result.

In theory, perhaps, the assembler of automobiles may not be entitled to the same respect as the manufacturer who builds everything himself, but this latter type is no longer to be found. Moreover, the man who came closest to the ideal was for a long time unrivaled as the creator of the world's ugliest automobile, and was compelled, at length, to rebuild his plant and change the design of his car to conform to the taste built up by the lowly assemblers. * * *

The designer must, of course, understand his whole problem, whether it be the design of the simplest sort of tool or the design of a large

modern building. It is rather naive, however, to assume that the modern structural engineer has a more complete grasp of the problem of the skyscraper than has his partner, the architect.

In the first place, the engineer is not one person. There are some engineering firms which are prepared to design every part of the structure and mechanical equipment of a large building, but there are more concerns which specialize. One man designs the steel, another the elevators, a third the plumbing, a fourth the heating and ventilating system, and a fifth the electrical layout. Still another man may be retained to design the foundations.

Even where all these engineers belong to the same firm, there is often a serious conflict in their aims, and the architect would serve a useful purpose if he did nothing more than to smooth out those conflicts. No one who has not gone through the actual work of reconciling the various requirements can have an idea of the ingenuity necessary merely to reduce the space occupied by pipes and ducts and to keep them from ruining the appearance of the rentable office space. If the architect did not do this work, the engineer would presumably do it himself, but he shows little disposition to take over such tasks at present. He commonly feels that when he has furnished a diagram of the necessary structure and equipment, his direct responsibility is at an end. He reasons—and quite rightly, according to present standards—that it is the architect's business to combine all the elements of a building in their final form.

Thus a large part of the architect's work amounts to a redesigning, in consultation with the engineer, of the mechanical systems of the building, a simplification which makes the building itself a better machine and at the same time contributes to its appearance. But it is not to be supposed that the "specialist in aesthetics," as Lewis Mumford calls him, goes no farther than this to meet the engineer. * * *

There may be nothing grotesque in so training men to construct skyscrapers without even indicating the possibility of humane ideals in building. But there may well be something grotesque in the result, when the engineer, the realtor, and the architect must work together to produce the new architecture. However impatient we may be with the slow advance toward this new architecture, can we hope to accelerate the advance by turning the problem over to the engineer and the real estate man? Even if we accept the hoary falsehood that the modern architect is blood-brother to the amateur of Renaissance times, who drew facades on paper without knowing anything about building, can we regard the engineer as the legitimate successor of the medieval master-builder?

The builders of the Gothic churches certainly did not learn their trade by computing the thrusts of arches and by breaking cubes of stone to ascertain their crushing loads. They learned by studying fine buildings, and while they mastered the methods of their construction they also became familiar with the beautiful forms of their detail and the grand proportions of their spaces. There was no other school for the builder, and it was simply impossible that he should have any great experience with important construction without gaining a corresponding knowledge of the best design of his epoch.

The separation of architecture and building has had some unfortunate results, but such a separation was inevitable in any case, and would not have survived if it had not presented some very great advantages. The achievements of the engineer, in particular, would not have been possible without such specialization, and if his department of the art of building has progressed more rapidly than other departments, it is nevertheless a special field, and not the whole art. If the architect's achievements seem less brilliant by comparison, if he has as yet failed to incorporate all the new elements of his problem into one organic whole, it should be pointed out that he is in the same boat with the rest of humanity, who have nowhere succeeded in absorbing the new world of science into a unified politics or philosophy.

"Castles In The Air"

By F. B. NIGHTINGALE
Vice Chairman, Floodlighting Committee
Pacific Coast Electrical Bureau

"CASTLES IN THE AIR." Truly the new limit height Pellissier Building in Los Angeles is just that. The building is located at the "Cross-Roads of the West," corner Wilshire Boulevard and Western Avenue, and was designed by Morgan, Walls & Clements, architects. The exterior walls are clothed in turquoise blue terra cotta, which appropriately reflect the halo of California sky by day. When twilight falls and the imagination has time to roam, the structure does not sink back into the shadows of darkness,

but instead, it blooms forth with fresh beauty and mystery—a veritable castle in the air.

Seventy-three floodlights of 250 watts, 500 watts and 1000 watts capacity, copper and bronze finish, concealed in the setbacks of the structure, furnish illumination of a high intensity. It was the architect's inspiration to draw attention to the structure at the earliest possible moment to assist his client in the rental of space. Orders were given to install the floodlighting equipment the moment the terra cotta was applied to the upper elevations. The results were all that could be desired, as the following letter indicates:

Dear Mr. Nightingale:

The dream of every builder of commercial buildings, particularly office buildings, is to have them leased before completed.

In any large building the sooner the information is in hand of the final occupancy, the more thousands of dollars can be saved by the elimination of countless changes thus avoided. It is also obvious that when a building is completed and is fully occupied the income thus obtained represents a considerable sum.

PELLESSIER BUILDING, LOS ANGELES
Seventy-three General Electric flood lights create the effect

PELLESSIER BUILDING, LOS ANGELES
Opening Night with Hollywood's searchlights in action

We are about to file "Notice of Completion" on the Pellissier Building which you so admirably flood lighted. We find that we have leased all but six offices out of the 110 in the building. We know that the structure represents the ultimate in office buildings, but at the same time realize that the floodlighting had much to do in calling the public's attention to that fact. Its cost is small compared to the savings referred to above.

Our only regret is that we did not start sooner to light the building. In our future work we will plan the position of construction scaffolding and hoist in order not to interfere with this important advertising and thus hope to come closer to the ideal of a completely leased building before plumbing, electric wiring or any partitions are in place.

Thank you for your keen interest and the splendid work.

Sincerely yours,
HENRY de ROULET.

« « « « With the Architects » » » »

GRANTED CERTIFICATES

At the regular meeting of the California State Board of Architectural Examiners, Northern District, held February 23, the following were granted Provisional Certificates, for the practice of architecture in the State of California:

Charles N. Coseboom, 813 Lincoln Street, Klamath Falls, Oregon; David B. Clark, 310 University Avenue, Palo Alto; Elmore G. Ernst, 9 W. Cleveland Street, Stockton; Arthur Veryan Jory, 1395 Scenic Avenue, Berkeley; Mario Francis Corbett, 2335 Larkin Street, San Francisco; Theodore C. Bernardi, 948 The Alameda, Berkeley; Arthur L. Herberger, 770 Wesley Ave., Oakland.

At the regular meeting, January 26th, of the Southern District Board of Architectural Examiners, Los Angeles, the following were granted Provisional Certificates: George N. Seymour, 1615 Corning Street, Los Angeles, and Wm. Herbert Schuchardt, 800 Bel-Air Road, Los Angeles.

VALLEJO POST OFFICE

Preliminary plans for a post office building in Vallejo, by Charles F. Dean, architect of Sacramento, have been approved and bids are likely to be advertised in May. There is an approriation of $143,000 for the structure.

Mr. Dean is at work on plans for a Y.W.C.A. building in Sacramento and he has completed drawings for a fire house and jail to cost $22,000 for the city of Woodland. Later on a city hall will be constructed on the same property.

FEDERAL OFFICE BUILDING

Plans are being completed by Arthur Brown, Jr., 251 Kearny Street, San Francisco, for a five story, Class A Federal office building to be built in the Civic Center, San Francisco. Preliminary plans have been approved at Washington, D. C. The structural design is in the hands of C. H. Snyder and the mechanical work is being handled by Leland and Haley. The building is to cost $3,050,000.

SKYSCRAPER PLANNED

With the promised return to normalcy the building industry in San Francisco will have a stimulus in the construction of a twenty-eight story Class A office building in the financial center, from plans by O'Brien Brothers and Peugh. The promoter and financial backer of the project is Louis R. Lurie who states that 80% of the office room in this $2,000,000 structure has already been leased.

COMMISSIONED ARCHITECTS

Paul L. Dragon and C. R. Schmidts, Mercantile Bank Building, Berkeley, have been commissioned by the Masonic Lodge of Red Bluff, to prepare plans for a two story reinforced concrete store and lodge building, a portion of which, it is understood, will be leased to the Pacific Gas & Electric Company. Bids will be called for early in April.

SAN JOSE STORE BUILDING

Charles S. McKenzie has completed plans and a contract has been awarded to G. P. W. Jensen, 320 Market Street, San Francisco, to construct a one and two story, steel frame and brick store building at 40 South First Street, San Jose. Mrs. Owen Richardson is the owner and the approximate cost is $30,000.

BERKELEY ARCHITECT BUSY

New work in the office of J. W. Plachek of Berkeley, includes alterations and additions to a Class C building at 1040 Bush Street, San Francisco, known as the Mary Elizabeth Inn; also store changes in the Glide Memorial Building, San Francisco.

PLACERVILLE BUILDING

A two story concrete and brick store and office building at Placerville is being designed by Frederick S. Harrison, architect, of Sacramento. The structural work is being done by F. W. Kellberg of San Francisco. The building will cost $35,000.

EDWARD F. PINNEH

Edward F. Pinneh, of McCleland, Pinneh and Jones, architects of Seattle, Washington, died January 12. Only last September he had returned from a three months' trip of professional exploration in Europe, during which he attended the International Rotary Convention as a delegate from the Seattle Chapter. He made a careful study of modernistic trends in architecture on the sojourn.

Mr. Pinneh was born at Sheffield, Penn., July 19, 1886. His earliest professional training was obtained in the office of Hosenhans and Allen, pioneer Seattle architects. Later he served under Daniel R. Huntington in Seattle's city building department. Several years of work under the late H. B. Pearce was followed by the formation of a partnership with Robert F. McClelland in the Crary Building. Later Victor N. B. Jones joined the firm. Mr. Pinneh was a member of the Washington Chapter, American Institute of Architects.

SIX STORY APARTMENTS

J. Welch, 825 Sutter Street, San Francisco, is the owner of a six story and basement Class C apartment building which H. C. Baumann, architect, has designed for the east side of Mason Street, north of Sutter, San Francisco. A building permit has been taken out and segregated contracts have been received. The estimated cost is $150,000.

SACRAMENTO OFFICE BUILDING

Contracts have been awarded from plans by George C. Sellon & Company for a three story Class A addition to the California State Life Insurance Company's building, 10th and J Streets, Sacramento. Work is expected to cost in the neighborhood of $100,000.

SAN FRANCISCO APARTMENTS

A contract has been let by C. O. Clausen, architect, for the construction of an $18,000 frame apartment building on the southeast corner of 32nd Avenue and Judah Street, San Francisco, for H. Taboas.

SAN DIEGO FEDERAL BUILDING

William Templeton Johnson has been commissioned to prepare plans for a $500,000 Federal building in San Diego and the government has approved a site bounded by East 8th and 9th Streets.

WITH THE PORTLAND ARCHITECTS

Messrs. Dougan-Reverman are architects for the new school building to be erected at Tillamook, to be a seven-classroom accommodation with modern school facilities, reinforced concrete with brick or stucco and with tile roof.

The same architects are completing plans for the first unit of the Jesuit group at Paradise View Farm. The building, estimated at $400,000, will cover a frontage of 366 feet, with three wings each 240 feet deep, and will be of concrete and steel construction.

Messrs. Higgins & Biederman have taken bids on the Tatoosh Island weather station, which is to be of reinforced concrete and estimated to cost $30,000.

Messrs. Lawrence, Holford, Allyn & Bear are architects for the new county court house at Tillamook, estimated to cost $250,000. Architects contested for the work, quite a number submitting sketches.

MR. LUNDEN'S WORK EXHIBITED

A display of the work of Samuel E. Lunden, architect, executed in association with Messrs. Cram & Ferguson of Boston, was held during the latter part of February in the Architects Building, Fifth and Figueroa Streets, Los Angeles. Featured in the display were photographs of the Los Angeles Stock Exchange Building and the Church of St. Vincent de Paul, and sketches and full size details of the Doheny Memorial Library now under construction at the University of Southern California.

KNIGHTS OF COLUMBUS BUILDING

The Los Angeles Knights of Columbus have commissioned Henry C. Newton and Robert D. Murray to prepare plans for a two story and basement reinforced concrete and brick lodge building to be erected on the northeast corner of Bonniebrae and 9th Streets, Los Angeles.

ARCHITECTURAL EXHIBIT

An exhibition of recent architectural work in the East Bay section will be held all of next month in the Berkeley Art Museum, Shattuck Avenue, near the Public Library Building. In May a similar exhibition, but on a larger scale, will be held in San Francisco.

COUNTY HOME

C. G. Cottier of Great Falls is architect for the Cascade county home, estimated to cost $180,000. The building will cover ground area 344x260 feet and will have accommodations for 250 persons.

TACOMA ARCHITECTS

Messrs. Heath, Gove & Bell are architects for a mortuary at 1002 S. Yakima Avenue to be 50x90 feet, two-story, brick veneer with cast stone columns and trim.

E. J. Breseman, who was architect for the school buildings at Yelm, which were destroyed by fire, is working on plans for rebuilding the three buildings, including a gymnasium, grade school and annex.

E. J. Breseman is architect for a store building to be erected at 602 South 38th Street, 50x109 feet, one-story and of masonry construction.

The College of Puget Sound board of trustees has approved a program for construction of a library building, dormitories and other buildings to the extent of $5,000,000 expenditure, of which it is stated, $2,000,000 is now available.

LOS ANGELES SCHOOL BUILDING

Marsh, Smith & Powell, architects, of Los Angeles, have completed plans for a two story frame and concrete school building and auditorium alterations at the Hollywood High School. An appropriation of $100,000 has been made for the work.

LOS ANGELES APARTMENT HOUSE

Robert H. Orr, architect, of Los Angeles, has completed plans for a five story and basement steel and brick apartment building, which he will build for himself on Marathon Street, near Western Avenue, Los Angeles.

VETERANS BUILDING, SANTA CRUZ

A contract has been awarded to John E. Branagh of Oakland to build a two story, concrete and frame Veterans Memorial Building at Santa Cruz, to cost approximately $40,000. Davis-Pearce Company of Stockton are the architects.

RICHMOND SCHOOL ADDITION

A two story frame and brick veneer addition to the Richmond Union High School will be built this summer. James T. Narbett of Richmond, is the architect.

PERSONALS

Harbin F. Hunter has consolidated his business with that of Joseph Feil, who has specialized in commercial interiors. The firm will be known as Feil & Hunter. Business will be conducted from the former offices of Joseph Feil, 507 Oviatt Building, Los Angeles.

Allison & Allison have moved their offices from the California Reserve Building to suite 1014 Edison Building, Fifth Street and Grand Avenue, Los Angeles.

Tommy Tomson announces his return from a commission in the Northwest and the reopening of offices for the practice of landscape architecture at 1201 Title Guarantee Building, Los Angeles.

William H. Wheeler, architect, has moved his office from the California Bank Building, San Diego, to 2151 Guy Street, in that city.

Robert B. Stacy-Judd, architect, of Los Angeles, and Miss Betty Schofield of Ventura, were married in the First Baptist Church in Ventura, February 12. The bride is an artist and her interest in Mayan architecture, in which Mr. Stacy-Judd has specialized, furnished the romance back of their marriage. The church in which the wedding took place, designed by the bridegroom, is Mayan architecture. The couple departed on February 20th for Yucatan, where he will resume his explorations of Mayan ruins in that country, begun several years ago.

Cyril Bennett of Pasadena has been appointed director of the Tournament of Roses parade January 1, 1933.

Glenn E. Miller, architect and C. Hugh Gibbs, associate, have moved their office to room 202 Pacific Southwest Building, Long Beach.

NEW TRAINING SCHOOL

Franklin T. Georgeson, architect, of Eureka, states that the appropriation for the new training school, Humboldt State Teachers' College at Arcata, has been increased to $165,000, exclusive of furnishings, etc. Bids for erecting the building, which was designed by Mr. Georgeson, were opened in Sacramento, March 15.

LANDSCAPE ARCHITECTS ELECT

The 1932 officers of the Pacific Coast Chapter, American Society of Landscape Architects, are as follows:

President, L. Deming Tilton; vice-president, Charles H. Diggs; secretary, Katherine Bashford; treasurer, Russell L. McKown; executive committee, Wilbur D. Cook and George Gibbs.

COMPETITIONS

DOUGLAS FIR INTERIOR

The Douglas fir plywood industry is sponsoring a competition of interest to architects, architectural students and draftsmen.

Prizes totaling $1500 are offered for rough "idea-sketches," in plan and elevation, showing practical and attractive uses of Douglas fir plywood for any of the following interiors: (1) Attic bedroom; (2) Basement recreation room; (3) Kitchen and breakfast nook; (4) Camp cottage, including sleeping, cooking and living facilities for four people. In designing any of these, the contestants may include Douglas fir plywood built-ins, and, in short, indicate its use for any purpose for which they may consider it adapted.

The designs submitted should be both rendered elevations, made to scale of ¾" to 1 foot, and a plan made to a scale of ¼" to 1 foot. Color should not be used, but the drawings may be worked out in pencil, ink or plain wash.

Douglas fir plywood is described by the industry as "the most inexpensive of plywoods, light in weight, split-proof and warp-resistant, which takes any finish and is available sanded in sizes up to 4′ x 8′. Thicknesses range upward from ¼-inch, for uses ranging from wallboard and cabinet work to concrete forms and subflooring.

Entries should be sent to C. H. Alden, Professional Adviser, Douglas Fir Plywood Manufacturers, Skinner Building, Seattle, Washington. Only material post-marked before midnight, June 15, will be considered. Entries will be returned to contestants if proper postage is enclosed. Copies of the contest rules may be obtained by writing to the above address.

CHRYSLER BUILDING COMPETITION

Six of the leading architects of the United States will submit designs for a Chrysler building at the Century of Progress International Exposition to be held at Chicago next year. With the sanction of the American Institute of Architects, the corporation is now conducting a competition among a selected group of eminent architects with a view to developing a design for an exhibit of its own that will be of outstanding public interest at the coming world's fair.

It is expected that the Chrysler building and exhibit will represent an investment of approximately $500,000.

The architects who will submit designs for the development of this site are: Eliel Saarinen of Birmingham, Michigan, who won second prize in the Chicago Tribune Tower competition in 1922; Holabird and Root of Chicago, who won third prize in the same competition; Voorhees, Gmelin and Walker of New York, who designed the Irving Trust Building; Paul Philippe Cret of Philidelphia, who won the Bok Philadelphia award in 1930, given annually for outstanding achievement benefitting the city; Roger Bailey of New York, who won the 1926 Paris prize of the Beaux Arts Institute of Design; Henry Hornbostel of Pittsburgh, who won with Eric Wood the contest for the design of the Harding Memorial at Marion, Ohio. Kenneth Franzheim of New York is acting as architectural adviser.

The project on which the architects are working is described as follows:

"This competition is more than an academic architectural problem. The ultimate purpose of the project is to exemplify in the building design and in the display the progressive spirit and moving force of Chrysler Corporation. The building is not just an independent and appropriate shelter for the display within, but rather is an integral part of the complete exhibit, which ensemble must be created in such a manner as to excite and retain public interest throughout the Century of Progress Exhibition. Its conception must sound a keynote of pioneering progress and engineering leadership, typifying not only what Chrysler Corporation has already accomplished but also what may be expected of it in the future development of motor transportation."

The program provides that all the drawings must be submitted by April 2, the award to be announced about April 15. The jury of award will consist of three noted architects: Raymond Hood and Edgar I. Williams of New York, and Albert Kahn of Detroit, and four officers of Chrysler Corporation.

MISADVENTURES OF A DRAFTSMAN

by
GEO. H. ALLEN
In "Pencil Points"

IT used to be that Monday was never any different from Tuesday, back in Woodbury. As far as that mattered, Monday was no different from any other day. If you hated the noise and blare of the large city, that was the place to live in . . .quiet streets overhung with shade trees . . . families gathered on the large verandas in the fading twilight . . . and the croaking of the frogs down by Kidder's Creek.

But the town has changed. Woodbury has come up in the world. The streets are now lined with concrete, the electric company is cutting down more and more of the shade trees—the elms, the maples, the locusts—to make way for stark, iron poles, bereft of all ornament and clustered with waving wires. The city laundry has a new lavender delivery car, chromiumed with sparkling gadgets; traffic lights hold authority at intersections and with the change of signals the cars burst ahead, with a blat-blat of horns and steady singing of rubber on concrete.

A town of forty-thousand souls, whose growth was provident by its nearness to a large city. And like the parasitic pilot fish on the whale, it spawned on the life blood of its larger neighbor. Its wage earners were largely commuters who preferred, after a hard day in the dusty, noisy city, to rush home and sprinkle the front lawn in the fading evening, inhaling all the while the sweet clean smell of newly-watered grass.

Woodbury had a beautiful and well-planned suburb known as Windlemere Heights. The main road, which led out of town and wound through the suburb, was appropriately named Homeview Drive. It meandered in a circular route throughout this section and was lined on either side with spacious homes set back on ample lawns. Finally it found its way back to the business section of the town again where, like a chameleon, it became once more a street of radio shops, barber emporiums, soda parlors, and penny news stands.

The business area encompassed a district of about ten city blocks. Every Wednesday and Saturday night the streets would be lined with the cars of those who were either shopping or enjoying the show at the local Strand. There was a bank on practically every corner which reflected either the solidity or stupidity of the place. It was a nice town withal, typical of thousands of others throughout the country. In the summer the men would dispense with their coats and walk around in white shirts, usually with the sleeves rolled up, and you never, never saw anyone wearing a hat!

Everyone had a nodding acquaintance with everyone else; you couldn't walk twenty feet without stopping and going into detail about the weather. It was a well-known fact that old Caleb Freeman, who practiced in criminal law and was a perpetual talker, couldn't get from his office in the Law Building down to the Court House (a distance of three blocks) in less than an hour and a half. Life moved slowly. Nobody made any fortunes here, unless it was Seth Miller who retired from his coal and lumber business about three years ago. But they all have their little homes, all take their Sunday rides with the family, all have their vegetable gardens in the back with the flower garden at the front, and they all enjoy the fullness of life in their mild, placid way.

Woodbury, however, could boast of one imposing structure—the Guarantee Trust Building, a twenty-story office building which was not over a

year old and was still the object of much local enthusiasm. It is said that a Rotarian can't pass by it without his chest noticeably expanding a few inches.

You entered the building through an over-elaborated entrance, the pride of Jimmy Fletcher, who was the town's one and only architect, with the exception of myself (not to be regarded as any serious competition). It was a fusion of Neo-Classic and "drafting-board" Modern. Inside, extravagantly liveried starters in plum-colored trappings bowed you to waiting elevators which took you quickly up to the floors above. They had those latest gadgets which register the floors that you were passing in small electrical numerals on a panel above the door.

Anyone getting off at the twelfth floor and turning to the right, would run smack into a sign of small, black letters on a ground-glass paneled door:

RODGER REYNOLDS
Architect

This was my new office. Here I practiced architecture . . . whenever I had work to practice with.

My suite consisted of just one large room. I had a small washstand in one corner over which was a steel mirrored cabinet, while at the far side of the room near the windows was the large drafting table. I found I had to take on a stenographer because I was out a great deal of the time; she occupied a small desk right near the door as one came in. In the middle of the room was my desk with an armchair and another chair, having an inviting cushion, for the clients. The only one to sit in it so far was Dick Lerndon, who drifted in from the heat of the street one day to make a five-dollar touch. I was contemplating discarding the cushion to discourage any more such callers.

Owing to the fact that I had opened this office on my meager savings of exactly $965, I necessarily had to cut my expenses down to the bone. My rent was $15 a month, the phone $3.50, I paid the stenographer $12 a week, and the cleaning lady got a two-dollar bill every Friday night. These running expenses, as they are appropriately called, ran on whether there was business or not. To date (the office had been opened just three weeks ago) there hadn't been the *slightest* sign of a job straying in the door.

I walked in, hung my hat on the rack and sat down at the desk. There were three letters awaiting me. The first was a form letter from a tailor—that went right into the basket. The second was a bill for my stationery and the last was a notice from the lodge, something about my dues.

"Were there any messages for me, Miss Webster?" I asked my stenographer. I noticed she was reading a book with a glaring yellow cover.

"No, there wasn't . . . oh, just a minute, yes, here it is . . . you're to call Dick Lerndon when you come in."

Lerndon, that meant more money probably. Opening my drawer I pulled out a sheet of my new stationery and dipping a clean pen into a new bottle of ink, I wrote a letter enclosing a check to the printer. Meanwhile, I had been wondering what Lerndon wanted. If it were money, he would have stopped around. He was a good fellow to know because he had a great many influential friends about town. I finally got him at the number he left for me to call.

"Say, Rod, how about coming over to the club this afternoon and shootin' a little round of golf?" He evidently was over at the golf club; he was always to be found in the locker room.

"I don't think so, Dick. You know I can't afford to play golf any more, I'm trying to keep my head above water as it is."

"The trouble with you, Rod, is that you need a little recreation for a change. You've been working too hard, lately."

I didn't say much to that.

"C'mon over. We can get up a little foursome and . . . just a minute. . . . " I could hear undistinguishable noises. Then, "Say, Rod, I was just talking to Jack Farnum." My pulse quickened. That was old Ed Farnum's son. He inherited quite a fortune last year when the elder Farnum died and is responsible for putting up a number of high-class homes out in the Lake Park section. I had always wanted to meet him because I thought there probably would be an opportunity there for me. "He's all set for a good game. You should meet him, Rod—he's been blowing off about some fantastic development scheme around here for the last three months. We can't keep him quiet. . . . "

"Good!" I cut in. "I'll be over in half an hour. Hold everything!"

The fact that I dug my golf bag out of the closet and rushed out of the office, when it was financially in such a deplorable state, was cause enough for my stenographer to think me mad. Any inhibitions that I might have had were thrown to the winds. I was determined to see if I couldn't dig up some business over a game of

golf . . . at least that is what you always read in the magazines . . . "young man closes important contract during 18-hole spree with executive." It is curious how one, like a czigany of old, will deviate from a natural order which has been sustained through sheer will, and (metaphorically speaking) veer off into a parabolic curve through some vague orbit to a distant, hazy illusion. Then, too, desperation is sometimes mistaken for a hasty action (or vice-versa. In this case probably the latter). Business is a matter of economics. We buy and we sell. This simple aphorism is culpable of having thousands of complicated subdivisions. But the fact still remains, we buy and sell. If prosperity descends upon us, then we find ourselves sending checks home to the mother-in-law.

But let this order reverse itself. Let adversity enfold us like a ravaging Visigoth and you find the wolf striving to get his nose further in the crack of the door. Then, unless there is an immediate largesse, you suddenly find yourself in a tough spot. Either open the door wide and let him in, or go out after his hide—which I was determined to do. (At this point I drove the thought home by scowling at nothing in particular, but this quickly vanished as I was suddenly precipitated into the corner of the car when it madly swung around a corner, leaving me clawing the air.)

Exactly thirty-five minutes after leaving the office I arrived at the club, to find Dick standing on the veranda talking to two men. They were attired in white knickers and their shirts were open at the neck.

"Hello, Rod," said Dick, extending his hand. "I want you to meet Mr. Revell, and Mr. Farnum. . . . Mr. Reynolds. . . . "

I shook hands with each. Revell was a quiet and unassuming man of small stature but Farnum with his boisterousness seemed rather overbearing.

"Farnum here," Dick winked sideways at me, "is the club's authority on taxes, depreciation, construction and also high-class developing . . . you know. . . . "

Farnum laughed deprecatorily.

"I saw some of your homes out in Lake Park and thought they were well above the average," I said, coming to his rescue.

"Rod here, is the young architect I was telling you about, Jack," Dick cut in. "You boys ought to get together. But let's get the game started."

After a little delay I joined them outside, having had to slip into a pair of knickers and strap up my wrist. Two years ago I wrenched it badly and found that if I didn't wear the strap, it would always ache after a game. We teed off; of course I dubbed the first stroke. Revell was very cautious, his follow-through and stroke were almost perfect. Dick always was a good shot, and his ball landed in an excellent position up near the green but Farnum was more inclined to go through numerous motions. First he would sway on one foot and then the other. Then he would introduce some preliminary swings and more motions, which all became so involved that I hardly saw how he was able to give the ball a final swat.

The weather was ideal. A deep blue sky formed a perfect background for the tiny wisps of clouds which calmly floated overhead. You could see the shadows which they cast as they moved, one after the other, over the grass as if they were playing some sort of a game. We finally arrived back to the clubhouse in convivial spirits, which were accentuated by a short session in the locker room. After a brisk shower and rubdown we retired to the lounge upstairs. This was a very appropriate title, with large sofas and deep chairs, you simply *lounged* the day away. Farnum seemed to be interested in me, at least he brought up the discussion of building again. We were seated apart from Dick and Revell. They both were agitated over the respective merits of the Deep Dale course and the one which we played on today.

"Do you know, Reynolds," said Farnum, "it pleases me to find someone who is interested in good design."

I replied that, since designing was more of a vocation than an avocation with me, I naturally was a willing party to any discussion.

"Let me ask you," he suddenly said, "Did you ever do a job ranging around $75,000?"

"Yes. The Waldron house over on Turner Place. That was when I was working for Blaine and Whiteside, but I handled it from start to finish, so I can truthfully say that it was my job, as far as the actual work was concerned."

"You did? Yes, I know the place. Look," here he produced an envelope completely covered with pencil sketches, "here is something I've been thinking about for some time. As you see, this is rather an unusual plan. This stair lands over here. It does away with a separate staircase for the maid. She uses this one, yet you cannot see her from the living room or entrance hall.

"This house will run into the neighborhood of eighty or ninety thousand dollars and I want you to take these rough sketches and see what you can do with them. I will want a drawing made of it, too, one of those colored things. . . . "

"Yes, a perspective rendering," I said. "I'll be glad to have an opportunity to do something for you, Mr. Farnum. I will get started on this right away."

He waived me away. "Go ahead, see what you can do with it. Let me know when you get it finished, and if it looks all right, we will shoot the works."

During the next ten days I worked hard, mostly late into the night, trying to get the thing to work. It was a very peculiar plan. While it looked all right in rough sketch form on the envelope, it wouldn't work until several problems were solved. Finally all of the plans (at $\frac{1}{8}$" scale) were finished and also two elevations. I finished a $\frac{1}{4}$" scale perspective of the house and rendered it in water color, this took four days of solid work, then mounted it on a stiff Bristol board. Taking it down to Farnum's office, I spread all the drawings out over a table. Immediately he became enthusiastic.

"Fine Reynolds! That's just the thing I want! How soon can you start on the working drawings?"

"Right away" I said.

"Well, go ahead. Get them going and bring in a contract tomorrow and we will sign it up."

You can imagine how hard I worked during the next two weeks. Things, at last, were going along fine. I found that my creditors were willing to carry me along for awhile longer, now that I had a job in the office. A clothing store down the street even offered to open an account.

Then the inevitable happened. The stock market, which had been skyrocketing dizzily upwards for the last three years, suddenly took a dive down to the bottom. Everybody began to moan about his losses. Those who had been investing heavily were rushing around trying to raise money to cover margins, and the one who was said to be the hardest hit was no other than Farnum .He left town, no one knew where. The sheriff hung a padlock on the office door and pasted a "legal" announcement on the window. Of course the job I was doing for Farnum was all washed up. It almost broke my heart to close up my office. By the time I sent my furniture and office equipment back to the stores where I purchased them, my debts were brought down to $325. The future certainly looked black.

I tried to get my old job back, but my former employers were in the same position as everyone else in town. There were no prospects of work except what they were finishing up. So when my uncle offered me a job in his office of the coal company, I gladly took it.

It was about a month later. I was down town on an errand when I passed Jack Farnum's old office. The place was still locked, and the windows by now were dusty and dirty. Standing proudly in the middle of the window was a large, colored drawing. In one corner of it was the caption—"Rodger Reynolds, Architect." While directly under it in large letters was the blaring announcement:

"Come in and ask us about this beautiful residence which is being designed especially for you in our Lake Park Development!"

SUMMER SKETCHING

EDITOR THE ARCHITECT AND ENGINEER:

The Washington State Chapter of the American Institute of Architects has conducted for two years a summer sketching competition among the draftsmen. The 1931 competition aroused much more interest than the first and we hope to do still better another year.

The judgments and exhibits have been held at the State University in Seattle in connection with one of the Chapter meetings. The drawings were judged this year by Mr. Ziegler, an artist, of Seattle. Last year the prizes were cashed to be spent in books, but this year signed original drawings were donated by a number of the most famous architectural delineators in the country. The competition was conducted in two classes.—junior and senior, and for a large variety of subjects.

The prize and mention winning drawings are being sent around the State to various high schools, the State College at Pullman, College of Puget Sound, University of Idaho, etc., and then returned to the owners. I was wondering if a selected exhibit of some of them would be of interest to the San Francisco Architectural Club. There would be no expense except the express. I think I could work up enthusiasm for a reciprocal exhibit from the draftsmen of San Francisco to be

shown in Tacoma, Seattle, Pullman, and Moscow, Idaho.

Sincerely yours,

GEORGE COVE.

Following is a report of the committee in charge of the awards:

Exhibition held at the University of Washington, Saturday, January 23, 1932. Judges: Messrs. Ziegler, Loveless and Bain.

Mr. Hennessey's Exhibit—15 foreign water colors. Three considered best: "Grand Canal, Venezia"; "Perugia"; "Fiesole, San Francisco." Two prizes—E. Brown's Drawing, Carl Gould's Water Color.

Mr. Fox's Exhibit—Eight illustrations of University of Washington. Prize—E. Born's Drawing.

Mr. Pollock's Exhibit—Eight animal pictures. Two considered best: Skye Terrier and Mongrel Dog. Prize—Bishop's "Old Barn."

SENIOR CLASS

Picturesque Subjects

M. Drury—"Farm Group, Eugene." Prize—O. Eggers' Drawing.
Max Barth—"Water Front Activity." Prize—N. Fox's "Hospital."
Max Barth—"Italian Water Front." Mention.

Frame Buildings

John Richards—"Yacht Club." Prize—S. Chamberlain's Drawing.
M. Jacobson—"Barn Group." Mention.
A. S. Carey—"Allen More Club House." Mention.

Exhibit of Etchings

Charles Palmer—"France—Street." Prize—O. McCracken's Drawing.

Concrete Construction

R. Bishop—"11th Street Bridge." Prize—C. Price's Drawing.

Stone Work

C. R. Butcher—"Block House, Kansas." Prize—A. Southwell's Drawing.
W. Johnson—"Packard Motor." Mention.
S. Richardson—"Italian Fountain." Mention.
W. Johnson—"Campus Entrance." Mention.

Brick Work

R. Bishop—"Steilacoom City Jail." Prize—Ted Jacobsen's "San Gimianano." (On account of brick technique.)
J. Richards—"Education Hall." Mention. (On account of effectiveness.)
Mr. Fritzgerald—"Oriel." Mention.
H. Overturf—"Northern Life Tower." Mention.

Landscape Subjects

Ed Young—"Boat and Dock." Prize—H. Thomas' Water Color.
E. H. Bugge—"Imaginary Landscape." Prize—T. Jacobsen's "Fountain."
H. Weller—"Hayden Lake and Tree." Special Mention. (No prize on account of position.)
M. Barth—"Cattle Barn, W. S. C." Mention.
R. Bishop—"Waterfront." Mention.
W. De Neff—"Sepia Snow Scene. Mention.
C. Butcher—"Wind River Canon." Mention.
W. De Neff—"Flower Studies." Mention.
Ed Young—"Logging Shute." Mention.
Mr. Yamashaki—"Boat." Mention
Mr. Nakashima—"Walterfall." Mention.
S. Richardson—"Boat." Mention.
M. Jacobson—"Trees and Bank." Mention.
W. H. Young—"American Falls." Mention.
W. A. Johnson—"Trees." Mention.

Still Life

Mr. McLaurin—"Fruit and Tea Pot." Mention.
E. H. Bugge—"Greig Bust." Mention.

Life Drawings

Mr. Fritzgerald—"Seated Girl." Prize. N. Fox's "Back Yard."
S. Richardson—"Negro." Mention.

JUNIOR CLASS

Concrete Buildings

No prize. No mention.

Brick Work

John Phillips—"Cloister." Prize—"C. Butcher's "Mt. Hood."
R. Logan—"Aud. Building, W. S. C." Prize—D. Clippinger's Drawing.
John Phillips—"Steilacoom Jail Door." Mention.

Wood Buildings

E. Peterson—"Abandoned Mill." Prize—F. Dorman's Drawing. (On account of illustrative quality.)
R. Durham—"Old Barn." Prize—F. Rhines' Drawing.
Tom Smith—"Old Gatway Eversham." Mention.

Picturesque Subjects

Bob Durham—"Old Shack." Prize—Locomotive Lithograph.
Tom Smith—"Ways of Commerce." Prize—Locomotive Lithograph.

Stone Work

No prize. No mention.

Landscape Subjects

Elmer Strand—"Ye Old Smoke Stack." Prize—C. Butcher's "San Juan."
Stanley Nelson—"Port Tacoma Pier." Prize—R. Bishop's "Trees."
A. D. Hughes—"Road to Puyallup." Mention.
Mr. McLaurin—"Water Front—Water Color." Mention.
Wm. Bakke—"Tree." Mention.

Still Life

Stanley Nelson—"Vase." Mention.

We thank the 53 men who contributed drawings and invite tehm to the 1932 competition; the university faculty and students for space and help for the exhibition; the judges, and the 14 who contributed prizes.

ENGINEER ENTITLED TO FEE

It is well settled law that where a property owner breaches a valid construction contract, the contractor may sue and recover damages in an amount equal to the anticipated profits he would have earned had the owner fulfilled the terms of the contract. This rule of law applies to architects and engineers as well as to contractors, says Leo T. Parker, Attorney, in the *General Building Contractor*.

For example, in the late case of Haskins vs. De Soto, 35 S. W. (2d) 964, it was disclosed that a property owner and an engineer entered into a contract by the terms of which it was agreed that the latter should be paid a stipulated amount for preparing the plans, surveys, and the like.

The contract provided that the engineer should prepare the preliminary plans and surveys and submit them to the property owner, and "if it was decided to go ahead" that he should then prepare all further plans and other documents which were necessary to the final awarding of the contract to the successful bidder. The agreed charge for the preliminary work was $250, but for the preparation of the final surveys, detailed plans, specifications and contract documents, including the supervision of the construction, the charge was to be 5 per cent of the contract price.

The engineer proceeded to perform the obligations assumed under the contract. After the preliminary plans had been approved and he had completed final plans and specifications, and work on the project was about to be commenced, the property owner abandoned it.

The engineer sued to recover the agreed fee of 5 per cent on the cost of the proposed construction work. The counsel for the property owner argued that he should not be entitled to recover more than $250 for the service rendered.

However, it is interesting to observe that the higher court held the engineer entitled to recover the full 5 per cent commission.

« « « Society and Club Meetings » » »

NORTHERN CALIFORNIA CHAPTER

A meeting of the Northern California Chapter, the American Institute of Architects, was held at the Plaza Hotel, San Francisco, on the evening of February 23rd, Henry H. Gutterson presiding.

Mr. Fairweather introduced the matter of a reduction in the building wage scale and stated that many trades are not receiving the scale established by the Impartial Wage Board. The discussion which ensued was to the effect that the present concern should be towards a stabilizing of wages and the following motion of Mr. Norberg, seconded by Mr. Donovan, was unanimously passed:

> *Resolved:* that the Northern California Chapter accept in principle the suggestion of consideration of stabilizing wages in the building industries throughout the bay region, and that it proceed in its investigation through the appointment of a committee of three to confer with the Building Congress toward that end.

The Chapter was pleased to have as its guest, A. M. Edelman, of Los Angeles, who is a member of the State Board of Architectural Examiners. In responding to his introduction, Mr. Edelman spoke of the attitude in Southern California relative to the effort being made for the benefit of the unemployed, through the instituting of the five-hour shift in labor.

Mr. Gutterson reported on work being undertaken by the Educational Committee, in preparation of a syllabus for the State Board of Architectural Examiners. While on this subject, Mr. Donovan voiced an opinion of faults to be found within the curriculum of universities for fitting students for their life work in architecture.

Announcement was made of the preparations which are under way for the biennial honor award exhibit.

Mr. Gutterson told of the successful effort of the Committee on Practice to prevent the holding of an unauthorized competition for a Veterans' Memorial Building in Sonora. Mr. Donovan, seconded by Messrs. Norberg and Meyer, moved that the President of the Chapter and the Chairman of the Committee on Competitions and Practise, be commended for their prompt action and that the Chapter support a continuance of such effort as later occasions require.

The Secretary was instructed to send a letter to the Supervisors of Tuolumne County, acknowledging the Chapter's appreciation of their attitude in meeting its request.

A general discussion of unauthorized competitions followed. Mr. Evers suggested that the Committee on Practice consider the advisability of circularizing all county boards with a statement of the authorized Institute procedure in such matters. Mr. Roeth, the chairman of the committee, believed that the Chapter's interest should be extended to include private as well as public work.

Delegates were selected for the annual Convention of the Institute to be held in Washington, D. C., on April 27-28-29. Following their indication of willingness to attend, Messrs. Meyer, Donovan, Perry, Evers and Wurster were chosen.

—J.H.M.

SOUTHERN CALIFORNIA CHAPTER

Significant of the 200th birthday anniversary of George Washington, Colonel Charles Harrison Haskell made an address on Colonial patriotism at the February meeting of the Southern California Chapter, American Institute of Architects, held at the Victor Hugo restaurant in Los Angeles, February 9.

Professor Verle L. Annis of the College of Architecture, University of Southern California, gave a talk on Colonial Architecture in Delaware, illustrated with lantern slides of unpublished drawings and photographs of historical interest.

The special committee recently appointed to further the aims of H. R. Bill No. 6187, a bill requiring the Treasury Department to employ private architects on all Federal government building projects costing more than $50,000, reported that the bill had been endorsed by the Los Angeles Chamber of Commerce, the Los Angeles County Chambers of Commerce and the California Chamber of Commerce.

OREGON CHAPTER

The regular monthly meeting of Oregon Chapter was held February 16th at the University Club, Portland. Present: Messrs. Doty, Parker, Brookman, Jones, Jacobberger, Bean, James, Sundeleaf, Crowell, Holford, Church, Roehr, Johnson, Aandahl and Wallwork. Guests: Messrs. Hogue, Van Snider and Herman of West Coast Lumber Association.

Mr. James, in behalf of the Civic Building Service Bureau, asked that architects knowing of owners who might build if they had more encouragement, report same to the Bureau, which may be able to bring the necessary pressure to start action. This invitation is hereby extended to all members.

Mr. Hogue, Mr. Van Snider and Mr. Herman gave instructive talks dealing chiefly with moisture content of lumber. They exhibited a machine which instantly measured the moisture content by electrical resistance. Mr. Herman extended a cordial invitation to architects to visit his laboratory at 708 Milwaukie Avenue.—W.H.C.

WASHINGTON STATE CHAPTER

Following the wishes of the members of Washington State Chapter, A. I. A., as expressed at a previous meeting, the annual meeting for this year was held in the Architecture Building at the University of Washington, which formed an interesting setting for the occasion. Ample opportunity was afforded for the exhibition of sketches entered in a competition held under the auspices of the Chapter and in the evening a joint meeting was enjoyed with the students who furnished the entertainment.

The annual business meeting was called to order by President Borhek in the library of the Architectural Department at 2 o'clock. The annual address of the president being deferred, the secretary was called upon to present his report as the first order of business.

The membership of the Chapter has remained as for the year before at 82 members, not taking into account, however, some who were destined to be dropped on account of delinquency in dues. The Chapter membership is made up of three Honorary Associates, two Fellows, 66 other Institute members and 11 Chapter Associates. The Chapter gained two members, newly elected to the Institute, and lost two by death during the year.

The secretary's report was approved and the treasurer then presented his annual report with figures giving in detail the financial operations of the Chapter during the year. Total resources were stated as $2,801.95, of which $1,926.51 was in the permanent fund. Receipts totaled $2,906.50, including a balance of $333.08 on hand at the beginning of the year and money transferred from the reserve and delegates fund and from the permanent fund, amounting to $875.00.

The net cost for publishing the Bulletin in 1931 was $266.53. An effort will be made to make the monthly publication more nearly self-sustaining by avoiding the printing of double numbers and increasing the advertising, if possible.

The item of expense for advertising has been practically eliminated.

Election of officers being next in order, the list of nominations was read by the secretary, and while the balloting was under way there were presented some communications which had been received by the Chapter. One from the Libby-Owens-Ford Glass Company, announcing a presentation of sound moving pictures of their industry, one from Los Angeles requesting architectural exhibits in connection with the Olympic Games, one from the Spokane Society of Architects relative to the Federal Architecture campaign, which was referred to the Committee on Federal Architecture, and one from the Architectural League of New Jersey relative to the Architects' Small House Service Bureau, which was referred to the incoming Committee on Domestic Architecture.

The president then called upon B. Marcus Priteca, who spoke entertainingly of his pleasure in returning to Seattle. Results of the election were then announced and officers for the ensuing year declared elected as follows:

President, J. Lister Holmes; first vice-president, R. F. McClelland; second vice-president, Ernest T. Mock; third vice-president, Harry C. Weller; secretary, Lance E. Gowen; treasurer, Albert M. Allen; member of the executive board for three years, Arthur L. Loveless; delegates to the Institute convention with the president and secretary, delegates ex-officio, F. A. Naramore and Henry C. Weller.

President Holmes was escorted to the chair and after voicing his appreciation of the honor conferred with felicitous remarks regarding the past

accomplishments of the Chapter and anticipations for the future, the business session was adjourned.

Following the annual business meeting a buffet dinner was served in the upper drafting room of the Architecture Building, the girls of the department acting as hostesses under the direction of Marvel Johnson, Phyllis Dolm and Rosa Polacio.

February Meeting

The Washington State Chapter members with others participating in the morning conference met for luncheon at the Frederick and Nelson Tea Room and after the luncheon the regular monthly meeting of the Chapter was called to order by President Holmes.

The committees for the ensuing year were announced by the president. A report from the exhibition committee was made by Mr. Stoddard, the chairman, who mentioned a proposed exhibition of domestic work to be held in May in conjunction with a civic committee on building and allied industries which was endeavoring to stimulate activity in this field. Harlan Thomas, chairman of the former committee on Federal architecture, announced that telegrams had been sent to Washington urging the passage of the legislation prepared for Congress by the Institute and asked for more time for the resolution to be sent by the Chapter..

The Chapter's new vice-president from east of the mountains, Harry C. Weller, was next introduced. Mr. Weller expressed his appreciation of not only being elected vice-president but a delegate to the Institute convention. He spoke briefly of the formation and activities of the Spokane Society of Architects, notable features being the campaign to get the government out of the architectural business, the meeting with President Kohn, a proposed Building Congress, the weekly luncheons, and monthly meetings with material men and others in the building industry.

President Holmes then turned the meeting over to Mr. Gould, chairman of the education committee, who complimented the high school instructors who were present on their activity and interest, spoke highly of the exhibition of students' work at the conference and introduced the instructors who were present.

Professor Stanley Smith, head of the Department of Architectural Engineering at the State College, spoke of the instruction he was giving to teachers on domestic architecture. His radio program had progressed. It was now given four times a week, featuring "The House That Jack Built", as a successor to "The King's Castle."

Mr. Gould then read a letter from Charles Butler, chairman of the A. I. A. committee on education, urging architects to visit the schools to further architectural instruction. He introduced George Gove of Tacoma who gave special credit to Mr. Borhek for establishing the contact between the architects and the schools and recommended as subjects for special consideration the need of more definite programs of instruction and the sending of work of the schools around to other schools. Mr. Osgood of the John Marshall Junior High School of Seattle, after being called upon, referred to the same subject, stating that there was in Seattle a committee at work on uniform courses and he felt that sending work around to the different schools would be generally helpful.

ARCHITECTS ORGANIZE

Registered architects of Oregon formally organized a state association as the climax to the first annual conference, which was held Friday, January 22, in the Public Library building at Portland. Ernst Kroner was elected general chairman, and Margaret Fritsch, secretary of the Oregon Architectural Examining Board, was chosen secretary-treasurer. Committee chairmen were named as follows: Public works, Harold Doty; building laws, O. R. Bean; public relations, Frederick Claussen; contractural relations, Fred Aandahl; lien laws, J. E. Tourtellotte; all of Portland, and, registration laws, J. E. Wicks, Astoria.

SPOKANE SOCIETY

The Spokane Society of Architects has set aside the second meeting of each month for discussion of problems pertinent to all groups of the construction industry. The group is working with the Associated Engineers on unemployment problems and has submitted a list of idle draftsmen to this body. A letter was written to the City Council in regard to a change in the plumbing ordinance which would permit the use of a certain system in buildings less than three stories in height.

FEBRUARY MEETING

General discussion of policies to be pursued during the ensuing year was held by members of the Washington State Society of Architects at a dinner meeting in the Gowman Hotel, Seattle, February 11. John S. Hudson occupied the chair.

MODERNIZATION OR OBSOLESCENCE

By J. C. KNAPP
Vice President, Otis Elevator Co.

THERE seems to be a more or less confirmed idea that hotels are a *deteriorating* investment—and that this deterioration, which involves final decay, must be accepted as an unpleasant eventuality. This idea is much the same as when one buys a horse or a suit of clothes. Now I know that anyone who buys such a thing as a horse knows that he is buying a deteriorating investment. He buys it with full knowledge that with each succeeding year it will give him gradually a decreasing return in service; and that finally the horse will cease to exist. However, I do not think that this rule of the horse should apply to hotel buildings and their equipment. Nevertheless, this seems often to be the case.

This somewhat fatalistic notion has always seemed to me to be peculiar to America. We have been growing so fast, and have become so accustomed to seeing old buildings pulled down and replaced by newer ones, that we have taken the attitude of mind that this pulling-down and building-up process was an evidence of progress. It is not really so. I do not think that this is so much an evidence of progress as it is an evidence of unstability—and unstability tied up with the progress of a new country such as America is.

I have often thought of obsolescence as not unlike the disease of consumption. It steals upon us quietly; but if taken in time there is a cure. Sometimes when this has been allowed to run too long a doctor must be called and drastic measures resorted to before recovery is possible. But the idea is to *prevent* obsolescence; it can be done just as in the matter of consumption.

What happens when an apartment house, an office building or a hotel becomes what we are pleased to call out-of-date? Even though the location may be good; even though the management continues to give good service and it maintains its reputation, trade begins to drift to the newer building or the competing house, and the business becomes a losing proposition. For a while the management may struggle against this tide; it may even lower rates or curtail service in a desperate effort to keep its business; but earnings continue to fall, and it means bankruptcy in the end.

I would like now to bring out a point which I do not think is very well understood here in America; although to me it seems vital.

There are two ways of providing for obsolescence. One—is to set aside a certain sum each year as a sinking fund to cover the future deterioration of the property. The other—is to *not only set aside* this fund each year, but to *spend it each year* for the purpose of *preventing* the property from becoming less valuable. There is a wide difference between these two theories — a difference which I can perhaps best illustrate by comparing this with what a man does in his own personal life, as regards his health. I suppose any one of us (when he comes to budget his own personal income for the year) will set aside in the budget, on the first of January, a certain sum for contingencies and doctor's bills. Now, suppose that he becomes ill in July. He has (presumably) the money set aside in his budget to pay the doctor. He then has a choice of two courses open to him. He can save the expense, refuse to call in a doctor and trust to luck that he will get well. Or, on the other hand, if he is wise, he calls in the doctor, and gets well as soon as he can. In other words, he knows it to be common sense to spend his doctor's allowance *as and when needed*, rather than try to keep his money in the bank. He knows if he continues to save his doctor's bill, some day he will die without having used his doctor's money for the purpose for which it was set aside. In other words, obsolescence allowed to run, is death.

There are no complicated requirements in finding ways of curing the inroads of time; in combatting obsolescence. It is simple. But it seems that the simplest matters are oftenest overlooked or regarded as the greatest bugaboos. It is difficult to understand; for instance, a building owner carefully insures against the fire hazard, and sets aside a definite sum each year for this protection. Fire hazards are remote; but they are a risk nevertheless and fire insurance is unquestionably sound. But obsolescence! It's not a risk—it's a certainty; just as certain as death and taxes. And yet, how few plan ahead and make provision for protection against this rapacious enemy of good business — of profits; an enemy that will destroy a building's earnings just as surely as will fire. The only difference is, that in one the agony of failure is prolonged.

In these days of competitive bids for business the pace is a swift one; people are not going to string along with a has-been. But modernity does not mean a new building always. You know of

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course that one of the best radios on the market is constructed so that parts, as improvements are evolved, may readily be removed and replaced with the new inventions, preserving the valuable framework, the beautiful piece of furniture in which you have invested many dollars.

May I repeat: it is criminal waste to tear down or abandon a well-built hotel or office building merely because some of the visible equipment becomes antiquated; it is poor business, however, to attempt to make your patron-public accept what *appears* to be ancient. Modernization doesn't mean destruction; it means the introduction of new and improved aids to service as the need for them becomes apparent.
comes apparent.

I am firmly convinced that we are undergoing reconstruction in our thinking in America. I believe we are beginning to count costs and to frown on profligate waste.

NEW FIXTURE COMPANY

Charles Seymour and Ernest W. Essmann, formerly executives of the Home Manufacturing Company, announce the incorporation on January 14, 1932, of the Seymour Show Case & Fixture Corporation with offices at 604 Mission Street, San Francisco. It is the purpose of the new company to engage in general store fixture and equipment manufacturing which will include store fronts, church pews, interiors and special furniture.

Both of these gentlemen are particularly well fitted to give the architect and general contractor the benefit of their many years' experience in this field of endeavor.

VACUUM CLEANER SPECIFICATIONS

The National Super Service Company of Toledo, Ohio, has compiled some very interesting specifications which may be obtained by making application to the company's home office. The specifications particularly emphasize the practicability of the utilization of portable vacuum cleaners for buildings of the larger type and point out that they have an assemblage of statistics and data in this regard that will prove highly illuminating to the building industry.

WASHINGTON ARCHITECTS MEET

"Problems of Instruction in Architectural Drawing" was the subject of a discussion conference held February 20, in the board room of the Seattle public schools, Central Building, Seattle. The conference was held under the direction of the educational committee of the Washington Chapter, the chairman being Carl F. Gould of Seattle.

THE PLAN OF WASHINGTON

To shape the development of Washington as "an expression of the highest ideals and accomplishments of American art," eleven national organizations will hold during the last week in April in Washington, D. C., what has been designated as "the Bicentennial Conference on the National Capital."

An executive committee, representing city planners, architects, landscape architects, sculptors, painters, and allied fields, has been organized to prepare plans for a permanent movement aimed with the aid of Congress "to exert the full force of intelligent professional opinion" in carrying out the Plan of Washington, conceived by Major Pierre Charles L'Enfant under the administration of the first President.

Horace W. Peaslee has been named chairman of the committee, of which Gardner S. Rogers, a director of the City Planning Institute, is secretary. The whole situation with respect to the National Capital is now being studied, and recommendations for a definite program will be submitted to the conference.

Enlistment of the country's ablest talent, freedom from political influence, appropriation of adequate funds, and closer working arrangements between Federal commissioners, are among the aims of the participating groups, which are:

The American City Planning Institute, the American Civic Association, the American Federation of Arts, the American Institute of Architects, the American Society of Civil Engineers, City Planning Division, the American Society of Landscape Architects, the Association of the Alumni of the American Academy in Rome, the Garden Club of America, the American Society of Mural Painters, the National Conference on City Planning, the National Sculpture Society.

"Sponsors of the conference," Mr. Peaslee said, "have reached an agreement in principle on three main points: First, that the development of Washington, in its general plan and in its details, should be in the hands of the ablest professional men, in order that it may express the highest ideals and accomplishments of American art.

"Second, that the employment of such men should be made possible by definite legislative authorization; third, that the full force of professional and civic organizations should be directed towards the accomplishment of this program and towards the appropriation of ample funds to obtain the men best fitted for the work, the proper execution of their designs, and adequate maintenance on a high standard.

"Another question is the establishment of a more definite relationship between the Fine Arts and Planning commissions and the professional and other societies interested in the development of the National Capital, to the end that these commissions should not become self-perpetuating bodies, nor be left in the hands of politics for their appointments, independent of professional sentiment and opinion in the country at large as to the qualifications of men who should initiate or pass upon work proposed for the National Capital.

"It is felt that at the present time contact between these commissions and the professions exists only in times of emergency when support is desired either for the obtaining of authorization and appropriations or for the blocking of some ill-considered project which jeopardizes the Plan of Washington. An opinion seems to prevail that a close working contract should be established.

"Corollary to this, the proposal has been advanced that, in view of the number of general planning projects reviewed by the Commission of Fine Arts, the established profession of city planning should have recognition in the personnel of the Commission of Fine Arts.

"General agreement has been reached that steps should be taken in support of definite legislative measures, several of which are pending in present Congress, making possible the employment of

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capable and experienced men in the various fields of the arts on Federal projects under existing governmental agencies or under any of the pending public works administration measures.

"Support is to be consolidated for specific projects in the development of the Capital, such as the completion of the Mall, the Monument grounds, the George Washington Memorial Parkway, and the aboretum. Efforts are to be made in cooperation with the painters to obtain adequate technical supervision of existing murals in public buildings; with the sculptors to secure participation in the development of the proposed Hall of Fame; and with both sculptors and painters to obtain representation on the board of treasury consultants.

"The work of the Planning Commission is to be carefully studied with a view of obtaining more general cooperation in the carrying out of its plans, in stabilizing zoning, and in guiding private development along lines befitting the Capital of the nation.

"All of these findings have been developed for submission to the various groups involved, without committing these groups until action is taken at the Bicentennial conference. The mere fact of the holding of this conference shows the tremendous interest throughout the country in the development of the city founded by George Washington and designed by Major L'Enfant, and augurs well for its future.

"It is hoped that out of the conference will develop in each organization a committee on the National Capital similar to the nation-wide committee of the American Institute of Architects; and that their work may be coordinated by a central committee of the group chairmen, so that the full force of intelligent professional opinion may be exerted as occasion arises."

Problems of the National Capital will also be discussed at the sixty-fifty convention of the American Institute of Architects to be held in Washington, April 27, 28 and 29.

S. & S. TILE COMPANY

Eri H. Richardson, who has been representing Solon & Schemmel (S. & S. Tile Co.), has severed his connections with this firm. The selling will be carried on as in the past through the San Jose office and the sales office in the Building Material Exhibit, 557 Market Street, San Francisco.

SCHOOL ASSEMBLY HALL

Plans are being prepared by Louis S. Stone, Howden Building, Oakland, for a $15,000 assembly hall at the Harding School, El Cerrito. The auditorium will have a gallery and will seat 650 pupils.

MEETING ROOF PROBLEMS

By J. I. HOLDER*

Ordinarily, the demand that a roof be watertight is not a difficult one to fulfill. But in the case of the new Paramount Theater, Oakland, the architects, Miller & Pflueger, were doubly exacting.

In the application of this roof, the problems to be met were of an extraordinary nature. There were curves and varying inclines. The finish must be of a rolled surface similar to the surface of a street. It must withstand the abuse not only of wind and weather, the hot rays of the sun and the bite of frosts—but it must also withstand the abuse of traffic. And above all other things, it must be clean.

Spray equipment was specified which, when turned into operation, will subject the roof to torrential rains. A large sump, six feet and three feet deep, constructed in the roof, must carry off a portion of the water to the machinery below for cooling purposes. Hence, it is so important that the water arrive at its destination absolutely free of dirt and grit.

With the determination to make this roof another "perfect roof," the Paraffine Companies, Inc., and the Alta Roofing Company collaborated and applied a Pabco roof to meet all these conditions. It provides the clean, rolled finish required and will be kept in a state of watertight service by the Paraffine Companies for a term of twenty years.

This roof at once typifies and assures the permanency of the structure as a whole because after all no building is much better than its roof.

BRICK PEOPLE ACTIVE

The Brick Association in the Pacific Northwest is working on a scheme to call the attention of the public to the improvements which might be effected on many old structures by proper alterations in the line of modernization. This would be particularly applicable to homes. This is to be effected by means of a campaign showing a photograph of an old building, and a drawing showing its appearance when appropriately altered, which are to be displayed in various down-town windows, and a house to house circulation canvas in various districts. This would at least serve to bring to the attention of owners of antiquated houses the benefits to be derived from proper alterations. The appearance of many districts might be completely changed by the proper utilization of such alteration methods.

Much is being said these days about the government encouraging the ownership of homes.

*Engineering Department the Paraffine Companies, Inc.

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and
Robert Dennis Murray,
Architects, Los Angeles,
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April issue of Architect and Engineer.

Descriptive Article by
H. Roy Kelley, A. I. A.
Extra copies should be ordered in advance.

The question of how this can best be accomplished is all bound up with that of financing, mortgaging, construction, etc. One of the great evils in the matter of home ownership is the lack of insurance against shoddy construction, which affects the financing, and even more the ultimate life of the house. Some method should be worked out which would give to each house a certificate of quality so that the layman, who is apt to be misled as to the quality of construction by the external appearance of a building, would at least know what he was buying. This function of certifying to the quality of a house, or any other building, might be a duty of the building department, with the cooperation of the architect, and in that way no new machinery would be required.

The advocacy of such a method could properly be pushed by the architects. Its adoption would result undoubtedly in improving the quality of buildings.

OPPOSE NAMING SUB-CONTRACTORS

The Associated General Contractors of America in their recent annual convention at Milwaukee unanimously adopted resolutions opposing enactment of H. R. 4680 and S. 437, known as the Goss-Bingham bills, now pending in Congress which they claim would curb the freedom of contractural relations between general contractors and subcontractors. These bills are being urged by their proponents as a means to prevent "peddling of bids" on government work. General contractors assert that present regulations of the government on construction work require the approval of all subcontractors by the contracting authority before the subcontractor can go on the job and the only thing the proposed bills would accomplish would be to curb the freedom of contractural relationships. Following is the text of the resolutions adopted by the A. G. C.:

"1. Proposal has been made to Congress in H. R. 4680 and S. 437 providing that bidders for the construction requirements of the federal government be required to set forth in such bids a statement of the names of all supplymen, whose services are to be utilized on the project, the purpose being to eliminate the shopping of bids after the principal contract has been let.

"2. We hold that every one doing business within the industry has it entirely within his power to determine in advance of such dealings the business characteristics of the men with whom he proposes to do business. That in the great majority of cases, it is disregarding of sound business practices that creates trouble. The eagerness to accept work at any price, to gamble on outwitting the other fellow, or performing the impossible, and in many cases just plain ignorance can be traced as the direct causes of the difficulty.

"3. We believe that the relations, as existing

between the general contractor, the subcontractor, and the materialman, must be guided and controlled only by the establishing of proper understanding and the use of higher ethics and that such relations cannot be controlled or bettered by legislation.

"We hold that to enact the above law would create an impractical condition in the execution of the work and would add greatly to the contract administration cost. The number and variety of performing agencies required on any one operation, the change of circumstances during the duration period of the contract, and the very complicated and involved nature of construction enterprises generally all contribute to this situation. Therefore be it *resolved*, by the Associated General Contractors, in Convention assembled this 21st day of January, 1932, that it oppose the enactment of legislation of this character as being contrary to the public interests that it attempts to interest the responsible elements within the industry in the value of dealing only with responsible people and that it call the attention of all elements in the industry to the value of conferring with established credit bureaus as sources of information to guide them in their dealings; be it further *resolved*, that copies of this resolution be forwarded to members of Congress and to the heads of the various executive departments of the federal government."

NEW PLUMBING FIXTURE

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The Douglas Company will furnish illustrated specifications on request of their home office.

ARCHITECTS MOVE

Clarkson Swain has moved to 3401 Clay Street, San Francisco.

Swartz & Ryland have moved to the Spazier Building, Monterey.

Ralph Swearingen is at 1721 30th Street, San Diego.

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MORE ANENT SMALL HOUSE SERVICE BUREAU

EDITOR THE ARCHITECT AND ENGINEER:

You have been kind enough to publish our communications relative to the movement instigated by the New Jersey Chapter, A. I. A., to have the Institute discontinue its support or sponsorship of the Small House Service Bureau. We will appreciate publication by you of our detailed report, which follows:

At a meeting of the New York Chapter, A. I. A., on December 9, 1931, the affiliation of the American Institute of Architects with the Architects' Small House Service Bureau, Inc., was discussed. The discussion evidenced a growing opposition to the affiliation. Later, the president of the Chapter suggested, for the information of the members, that the matter be investigated and conclusions formulated unofficially. Accordingly, a self-constituted committee undertook the investigation. The personnel of the committee included a Chapter past-president, a Chapter president, a Chapter treasurer, a Chapter member, and a member of an independent society of architects

The 1917 convention of the Institute "resolved that the board of directors request the proper committee of the Institute to formulate a plan looking toward the development of a better and more harmonious architectural character in small dwelling houses throughout the country; and to recommend the best means for the education or instruction of the public as to what it should have and may get in inexpensive houses."

The 1918 convention reported no progress.

The 1919 convention adopted a resolution to appoint a special committee to devise means, appropriate for the approval of the Institute, for the improvement of small houses.

The 1920 convention received a very comprehensive report from the committee on Small Houses which indicated a method for producing reasonably good plans; and the directors complimented the Minnesota Chapter for assuming the burden of initiating the work through the Architects' Small House Service Bureau.

The 1922 convention report of the committee stated that there appeared to be developing some opposition to the Bureau because of its using in its literature the phrase "Controlled by the American Institute of Architects."

The 1923 convention records a statement of the directors to clarify the Institute's responsibility to and relationship with the Bureau to the effect that *it assumed no more responsibility for the Bureau's "specific elements of service" than it did of the "individual members of the Institute," and that it assumed no "interest in or approval of any specific acts of the Bureau in the development of its operation nor any financial interest or control whatever."*

The 1925 convention committee report indicated signs of differences of opinion evidenced by a minority report.

The 1926 convention adopted a resolution requesting a report from the directors on certain matters related to the Bureau, and the convention

was informed that "the organization which was formed for the control of the Bureau has not been effected."

The 1927 convention received a report of the directors pertaining to the Bureau, agreeable to the request of the 1926 convention, which included a report of counsel and a financial statement.

The 1927 convention committee report was presented as unanimous although a minority report was presented also, indicating a close connection between a portion of the committee and the Bureau evidenced by the predigested and predetermined so-called "unanimous" report.

The 1929 convention did not appoint a committee on Small Houses in the face of the growing objections to the Bureau's use of the phrase "Controlled by the American Institute of Architects."

Since 1929 an impenetrable obscurement has characterized the relations of the Institute with the Bureau until the announcement made by William Stanley Parker, president, Architects' Small House Service Bureau, Inc., at the December 9, 1931, meeting of the New York Chapter. Mr. Parker stated that the directors of the Institute, at its October, 1931, meeting, had approved an agreement made between the Bureau and the National Homes Finance Corporation composed of and capitalized by producers of building materials. *The corporation is to finance the construction of small houses and the retail distributors of its building materials are to sell the Bureau's stock plans exclusively and advertise themselves as "Agents for the Architects' Small House Service Bureau, Inc.,—Endorsed by the American Institute of Architects," and, also, that supervision of construction by architects will be provided at a commission of 1½ per cent of the cost of construction.*

The action of the directors in approving the contract between the Bureau and the National Homes Finance Corporation in October, 1931, is a violation of the clear and positive pronunciamento of the directors made in 1923, no record of revision or voidance of which has been found in the published documents of the Institute.

An immediate result of the agreement between the National Homes Finance Corporation and the Bureau (approved by the Institute directors) is found in the leading article in the *National Lumberman*, December, 1931. To quote:—"a new setup has been developed for coping with the breakdown of the old order and providing a smoother-running vehicle for the building industry in the coming era. . . . One of the highly potent factors for reviving home-building, is the present availability of architects to home-builders at small fees. . . ."

To recapitulate:

(1) The "coming era" promises architectural services to home builders "at small fees" to those who were heretofore unable to employ architects; and,

(2) The public conception of architectural services, created by a national advertising campaign, will be that the purchase of a low-priced, ready-made, hand-me-down Bureau stock-plan with architectural supervision of construction at an in-

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adequate 1½ per cent commission, constitutes true architectural service; and

(3) The whole tendency and effect of this public belief will be to distinctly lower the popular opinion of architecture and to practice thereof; and,

(4) Public opinion will appraise architectural services as cheap and ordinary, not comparable in value and importance to the services of other professions, a conception that will accrue to all phases of architectural practice; and

(5) It will inflict an irreparable damage to the rightful prestige and esteem of architecture and architects; and,

(6) To this deplorable and growing public conception and evaluation of what constitutes architectural services to the home-builders, the American Institute of Architects with its great prestige and influence as the national architectural organization, contributes by its approval of the beforementioned contract, affiliation with and endorsement of the Architects' Small House Service Bureau, Inc.

There has been a marked improvement in the architectural design and construction of all types of buildings and a growing appreciation of good architecture by the public since 1920; and, coincident with this development there has been an equal improvement in the architectural design and construction quality of the stock-plans for small houses produced by nearly all agencies, many of which have and do retain competent architects of experience and ability. There is no direct evidence obtainable to determine whether the competition of the Bureau in the small house stock-plan business has had any material effect on the general improvement made in such plans.

The affiliation with and "endorsement" by the Institute is used by the Bureau in its stock-plan sales efforts, which, coupled with the inference that the stock-plans are made by members of the Institute, causes these stock-plans erroneously to be considered by the stock-plan-purchasing public as, perforce, superior to stock-plans produced by other agencies. The good reputation and prestige of the Institute is prostituted to the end that stock-plans are sold in cut-price competition with the legitimate practice of architects.

The experiences of members of architectural organizations in the New York metropolitan region evidences the indisputable fact that the sale of Bureau and other stock plans effects a real damage to the legitimate practice of many architects. This is true to a greater degree in other regions in proportion to population.

It is customary for some of the most active proponents of the Bureau to greatly under-estimate or deny the inroads of the Bureau into the practice of a great number of architects, a large portion of whose practice is confined to designing small houses, because the nature of the practice of these proponents is such that they have no personal knowledge of the effects of the stock-plan business.

While intending to exert a beneficient influence in all matters architectural, the Institute is actually engaged in an enterprise, through this affiliation and "endorsement," which is destructive to the business welfare of and is a disservice to many

worthy architects who, whether members of the Institute or not, are entitled to its protection.

The affiliation of the Institute with the Bureau is very objectionable to a considerable number of architects who otherwise would become desirable Institute members. In one instance, fourteen members of an independent society of architects, who are also members of an Institute Chapter, were dissuaded by the other members of the society from resigning in a body from their Institute Chapter. This affiliation has aroused the resentment of some and many others deplore the fact that the great national organization of architects, by its affiliation with and "endorsement" of a cut-rate stock-plan business, has damaged their own business or that of their brother architects.

Opposition to the affiliation is evidenced by resolutions adopted by the Baltimore, Brooklyn, Central Illinois, Hawaii, Kansas City, New Jersey and Toledo Chapters of the Institute. The attitude of some independent architectural organizations in the metropolitan district alone is expressed in similar resolutions by the Architects' Club of Brooklyn, Architects' Club of North Hudson, Camden Society of Architects, Hudson County Society of Architects, Long Island Society of Architects, New Jersey Society of Architects, New York Society of Architects, Staten Island Society of Architects, the Architectural League of Northern New Jersey, Union County Society of Architects and Westchester County Society of Architects. It is right and proper for any architectural organization to protest against a damage inflicted on one or more of its members by the Institute's affiliate, the Bureau.

There is no evidence that this affiliation has the endorsement of the members of the Institute as discussion of the Bureau has been prevented in conventions and in the *Octagon*. A recently proposed letter-ballet referendum of all Institute members was opposed in a Chapter meeting by an Institute director, on the ground that "the members were unacquainted with the facts."

The growing dissention within the Institute and the opposition without the Institute is detrimental to the best interests of the American Institute of Architects. It is further evident from the expressions of independent architectural societies that the desirable and essential unification of architectural organizations will not be effected as long as this affiliation of the Institute with the Bureau exists.

Recorded for the Committee by
A. T. North, A.I.A.

PLUMBERS TO CONVENE

The next annual state convention of the State Association of Master Plumbers of California will be held in Oakland, May 23, 24, 25th, 1932.

Harry G. Newman, of Oakland, has been appointed as directing chairman and is supported by the following local committee:

W. H. Picard, Wm. D. Evans, Arthur Johnson, L. J. Kruse, W. H. Graham, H. S. Salisbury, Harry LeGassick, E. O. Dryer, Carl J. Doell, John W. Rankin, N. J. Previati, J. A. Fazio, J. B. Morse, Robt. Duncan, Jr., D. W. Durant.

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ARCHITECTS' CO-OPERATION NEEDED

By S. G. JOHNSON, *President*
Alameda County Chapter, A.I.A.

One of the worst evils in the building business today is unsound credits. The Associated General Contractors of America has an effective remedy which should be applied consistently. Through a sound system of credit stabilization the road should be paved for the modification of the lien law, which has proved an inadequate instrument as a substitute for a defective credit system.

Our attention to legislation affecting the building business must not slacken. Much good can be done for the industry by taking a stand either for or against certain measures as they affect the general contractor. The California Contractors' License Law is still inadequate in dealing with dishonest and incompetent contractors. New amendments designed to put an end to fraudulent practices still engaged in are needed.

The wage conditions present another problem for which we must assist in finding some solution. We are not so much interested in the reduction of wages as we are in a more stabilized wage condition. We are obliged to obtain work by competition in the open market. An established rate of wages from which no reduction can be anticipated without a corresponding loss would eliminate the disgusting practice of wage-cutting and wage-gambling.

The general contractor of today is dependent on the sub-contractor for the successful prosecution of his work. The benefits derived from their business associations must be mutual. "Fair play" should not be a motto only but a sure gauge for their dealings. Peddling of bids is not fair play. This old, unethical practice is getting sick of its own ugliness, but it is not dead yet. It is still a disturbing factor in the building industry. The general contractor, though partly responsible, should not be blamed altogether. Yet retaliatory measures, moral and legal, are now in the making against him. Should these measures be adopted for public and private work the general contractor will find himself with nothing left but the lumber. It would mean segregation of work, which would be of no help to the sub-contractor and would work a definite harm and great injustice to the master builder. We must take a firm stand against these proposals. But our stand will be weak unless we lend our support in trying to find a solution for the problem.

I believe that no element is more important for the sucesss of our business than the friendly relationship with the architects and engineers. This relationship, much improved in recent years, can be elevated to still higher levels. Mutual confidence and respect is the safest foundation for any business or association to rest upon. These attri-

butes, so fundamental, cannot be replaced with contracts and specifications. The protection for the owner, architect and contractor provided by the builder's contract is essential, of course.

The Associated General Contractors for thirteen years has emphasized the importance of the contract. But when all the legal and technical machinery known to man has been employed, a contract is still a weak instrument unless it be sustained by "Skill, Integrity and Responsibility" plus mutual confidence on the part of both the architect and the contractor.

With reference to contracts and specifications, we feel the need of a closer co-operation between the architect and the general contractor. Both are suffering for want of a better understanding of each other's problems. Contracts are often unfair to the contractor. Specifications with twenty or thirty alternates compelling the contractor to estimate the same plans many times in competition against as many bidders as there are alternates, place an unnecessary and unjust burden on the contractor. We are looking for a more standardized and just form of both contracts and specifications. I am also against the unfair competition often endured by both crafts when each encroaches on the other's business. When the architect eliminates the general contractor and the general contractor eliminates the architect the road is being paved for the elimination of both.

COURTS AID ENFORCEMENT

"The January registration under the California State Contractors' License Law brought the total licentiates to 22,676. This figure represents the total number of licenses issued since July 1, 1931, and deductions have not been made for suspensions or revocations, or the cancellation of licenses issued to firms or individuals no longer in the business," says Col. Carlos W. Huntington, director of the Department of Professional and Vocational Standards and Registrar of Contractors in his report to Governor James Rolph for January, 1932.

"Strong support of the department's increased activity against illegal operations has been shown by the attitude of the courts in recent prosecutions brought against contractors. Two arrests in January resulted in fines of $50 each, and one unlicensed operator received a ten day jail sentence. Two other operators, found guilty, were given thirty day jail sentences, suspended upon the provision that they straighten up their contracting business to the entire satisfaction of the Registrar, and violate none of the state laws regulating construction or contracting within the next six months. In another case, the contractor having plead guilty to a charge of contracting without a license, a thirty day jail sentence was given but

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suspended on provision the contractor secure his license within the next month. A statement by the Department that charges filed would make it necessary for the contractor to appear at a hearing with evidence in support of his application drew the statement from the Judge that the sentence would stand, and that the contractor would have to do whatever was necessary to secure his license, or serve the jail sentence.

"Actions in which the department was interested involving three contractors on various charges of fraudulent operations in connection with their construction business, resulted in convictions during the month. Sentences have not yet been passed.

"The report of the work of the Complaint Section follows:

Complaints filed in January	45
Complaints previously filed and not adjudicated	123
Total	168
Complaints dismissed or settled prior to hearing	18
Hearings held:	
Cases settled	20
Cases continued	21
Total	41
Amounts involved in cases closed or dismissed	$ 29,108.12
Amounts involved in pending cases	426,337.42
Informal complaints investigated and settled	9
Amounts involved (approximately)	3,000.00
Licenses suspended	7
Licenses revoked	4
Licenses reinstated	2
Application denied	1

(The names of seven contractors, formerly in business, were placed upon the ineligible list during the month, and will be unable to secure a license in the future without an investigation or a hearing before the Registrar as to their reputation and integrity as contractors.)

Prosecutions completed	7
Prosecutions pending (Warrants issued or case in hands of prosecutor)	5
Prosecution dismissed upon compliance	0
Convictions secured	6

"By authority of Section 8 of the Contractors' License Law, the department is undertaking to publish an official directory of licensed contractors. This publication will be ready for distribution early in March. It will contain an alphabetical, and a geographical and classified directory, a copy of the contractors' law, and a brief discussion of the functions of the Contractors' Division. It will also contain other important information concerning the various state laws regulating construction, which are of vital importance to all contractors, material dealers, and others closely allied to the construction industry. This publication will be placed in the hands of such public officials and organizations as are authorized to receive it, and it will be supplemented at regular perods with lists of additional licenses issued, as well as notices of suspensions, revocations and reinstatements of licenses. Additional copies may be secured from the Registrar of Contractors at a reasonable price, as authorized by the law. The state printing plant is now working a double shift on this publication, and the price for the directory will shortly be set, upon receipt of their statement of costs.

"At approximately the time this report is submittted, the New York Legislature is being asked to pass a law based upon and following very closely the California contractors' license law.

The organization sponsoring this bill in New York is one of a quasi-public nature, which recently undertook and successfully completed a revision of New York's antiquated lien laws. Reports reaching this department from all over California indicate that a very thorough poll was taken by the New York interests among those individuals and organizations in California in the best position to discuss the merits and weaknesses of the California contractors' license law. It is significant that after this investigation, the bill proposed in New York follows very closely our California licensing act."

Registration of Architects and Engineers

"Certification of one new licentiate brought the total under the Board of Architectural Examiners, Northern Division, to 513. The board completed thirty-seven investigations during the month, with 30 additional cases pending. No arrests were made by representatives of the board during the month.

"The issuance of two licenses during January brings the total under the jurisdiction of the Board of Architectural Examiners, Southern Division, to 706. One investigation was reported by the board. No prosecutions were made, nor were any licenses suspended or cancelled for violations of the act regulating the practice of architecture.

"The board reports favorable progress being made on the proposed uniform ordinance, and on the program to coordinate their efforts with those of the Board of Registration for Civil Engineers wherever there is a unity of interest.

"The Board of Registration for Civil Engineers reports 5136 licentiates at the close of January. This represents a net increase of nine over the previous report. One application was rejected, and four more are pending before the board. No investigations were made. No licenses were suspended or cancelled during the month. 28 engineers were granted the authority to use the title 'Structural Engineer'. Nine applications for the privilege of using the title 'Structural Engineer' were denied.

"The board has undertaken a program of bringing before students in the various universities and colleges the provision of the civil engineers' act, so that those preparing for this work may know as soon as possible the requirements necessary to secure a license, and thus encourage them to qualify as soon as possible for licenses."

HOSPITALS IN GREATER DEMAND

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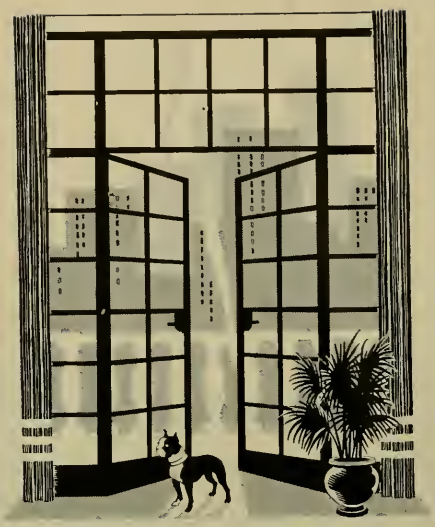

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for increasing demand for the construction of hospitals and institutions.

Part of the solution of shifting population composition must be cared for by new building —more hospitals, larger medical centers more sanitariums, more asylums, more homes for the aged, more hospitals for the mentally deficient. Writing in the *Architectural Record,* Mr. Schnitman points out that the middle-aged and aged are proportionately larger as a group than ever before and that conversely the young are proportionately smaller as a group.

"In 1920, 21 per cent of our entire population was 45 years or more of age," he says. "In 1930, 23 per cent of our population was 45 years or older. In 1920, 34 per cent of our people were 35 years old or more; while in 1930, 37 per cent of the population was in that category. By 1940, it appears safe to assume that at least 25 per cent of our people will be 45 or more years of age and that at least 40 per cent will be 35 years or more."

Mr. Schnitman shows that with medical science materially enlarging life-span expectancy and with machine age industry shortening the work period society faces new problems in caring for its increasing aged remnant.

"This is not so much the price of progress as it is its reward," he says. "For as the future unfolds, society's debt to itself will be liquidated more fully than ever before. It is here that the architect can make lasting contribution to the cause of social advancement. So long as the hospitals, the asylum, or the home for the aged is designed and planned on the basis of so many beds, just so long will these institutions continue to fall short of their functional purposes. In essence the hospital, the asylum and the home for the aged are residential projects to meet a particularized demand for shelter, comfort, surroundings and environment. As the social changes become more pressing, as the economic developments which lie ahead come to light, as government more completely recognizes its paternal responsibility, then may we expect to see new ideas of hospitalization translate themselves into suitable projects to meet the needs for particularized shelter—not so many beds, but rather so many housing units of a particular kind to meet a specific condition.

"Essentially, therefore, this is the era in architecture, that demands liberalization—in truth it is the time for liberalized specialization. It no longer suffices to be an archtect, a specialist on the design of this or that structural type. The time has arrived when the architect must know something of the science of society, something of psychology, something of psychiatry, something of all the sciences which bear upon the broader aspects of

design and the requirements of a people accustomed to an ever-rising living standard.

"During the 10-year period from 1921 to 1930, inclusive, expenditures for new hospital buildings and institutions throughout the United States aggregated approximately $1,400,000,000, based upon data from F. W. Dodge Corporation. Seventy per cent of these expenditures for new hospitals and institutions were made in the cities and towns where 83 per cent of the entire population made their homes. Inferentially, therefore, it may be said that in our smaller cities and towns a large need exists for better hospital facilities and better institutions to cope with their growing problems.

"All in all, the transition from the 'perambulator stage to the wheel-chair era' in our society will, in all probability, produce a new demand for particularized shelter that should to some degree offset the decline which appears presaged for residential building because of the striking changes that are taking place in our population growth rate and in the age composition of our people."

ARCHITECTS AND TRUST DEEDS

Trust deeds for financing the construction of buildings was the topic for discussion at the March meeting of the Southern California Chapter, American Institute of Architects. Harry Lee Martin, vice-president of the Pacific Mortgage Guarantee Company, talked on the advantages of using trust deeds and H. M. Goldman, Los Angeles attorney and representative of the Citizens' Trust Deed Reform League, talked on the disadvantages of using trust deeds.

Robert H. Orr, president of the State Association of California Architects, who recently returned from Washington, D. C., where he attended meetings of the Unification Committees of State Societies of Architects and the American Institute of Architects, reported that the unification program, as outlined and endorsed by the Southern California Chapter, had received the approval of the joint committees and the executive committee of the board of directors of the American Institute of Architects. Mr. Orr also stated that the unification scheme would be presented for discussion at the national convention of the Institute to be held in Washington, D. C., the last week in April.

Richard J. Neutra, recently returned from a trip around the world, gave an illustrated talk on the trend of modern architecture in European countries.

GORDON B. KAUFMANN HONORED

Gordon B. Kaufmann, architect, of Los Angeles, has been chosen president of the California Building Congress, Southern District.

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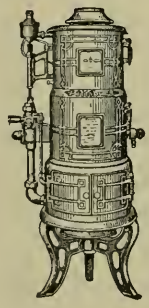

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HONOR AWARDS AT SANTA BARBARA

The awards for the best examples of civic and commercial architecture in Santa Barbara for the last two years have been announced by the plans and planting branch of the Santa Barbara Community Arts Association.

Following are the awards for 1930 for "civic architecture":

First award, Unitarian church, Santa Barbara and Arrellaga Streets; E. Keith Lockard, architect. Special award, Santa Barbara Riding and Hunt Club, Hope Ranch park, Reginald Johnson, architect.

For commercial architecture, first award was given the distribution sub-station, 11 West Mission Street, of the Southern California Edison company, Russel Ray, architect.

For 1931, civic architecture awards were as follows:

First award, fire station, East Valley road, Montecito, owned by Montecito Fire district, A. Bertrand Harmer, designer.

Second award, Harding Primary School and Kindergarten, Robbins Street, Winsor Soule, and John Frederic Murphy, architects.

Honorable mention, street facade, Jefferson School, Alameda Padre Serra, Floyd M. Brewster, associated with John C. Austin, and Frederic M. Ashley, architects.

In commercial architecture for 1931, first award went to the Hollister Estate Office, 911 Chapala Street, William A. Edwards, and J. J. Plunkett, architects.

Honorable mention, Sansum Clinic, 317 W. Pueblo Street, Dr. William D. Sansum, owner; Carleton M. Winslow, architect; Santa Barbara Clinic, remodeled, 1421 State Street; Knapp Fund, owner; Carleton M. Winslow, architect; mass of Fox Arlington Theater, 1317 State Street; Banks-Huntley company, owner; William A. Edwards, architect, and J. J. Plunkett; Figueroa Street facade of the Santa Barbara Mutual Building and Loan Building, 1035 State Street, William A. Edwards and J. J. Plunkett, architects.

In addition to the awards, the following buildings won mention in the report:

1930—Lerner Shop, remodeled, 817 State Street, F. M. Gehl, owner; Morgan, Walls & Clements, architects.

1931—El Patio Cafe, 386 West Carillo Boulevard; N. F. Liatas, owner, Henry W. Howell, architect; Huggins shop, 1311 State Street; W. G. Griffiith, owner; William A. Edwards, and J. J. Plunkett, architects.

The jury consisted of Ralph C. Flewelling of Beverly Hills, William Templeton Johnson of San Diego, and H. Roy Kelley of Los Angeles. In their report they said:

"The jury feels that the creation of a Board of Review, consisting of properly qualified members, for the inspection of plans for commercial buildings, especially, would do much to foster the cause of good architecture in Santa Barbara, and insure the continued advancement and permanence of the high position the city already holds among those communities possessing real architecture character."

JOHN F. ATKINSON

John F. Atkinson, for more than thirty years one of the leading building contractors of Southern California, died March 3 aboard the steamer Orangi, while enroute from Sidney, Australia, to Auckland, New Zealand. Death came suddenly from heart disease, according to a cablegram received by his son. Mr. Atkinson had in late years made frequent trips abroad, visiting Europe and South America and circling the globe. The trip to the South Seas and Australia he had planned as the culmination of his travels. He was at one time president of the Associated General Contractors of America.

IN BUSINESS FOR HIMSELF

Henry A. Hoyt, formerly connected with the Minton Company of Mountain View, is now engaged in the building business under his own name. Having had thirty years experience in all branches of the building industry, Mr. Hoyt will in the future not only handle general building construction, but appraisals and quantity surveys, as well as acting in the capacity of a construction consultant. He will carry on his business at 662 Melville Avenue, Palo Alto. P. O. address, Box 815. Mr. Hoyt was at one time a member of the editorial staff of THE ARCHITECT AND ENGINEER.

CONCRETE ASHLAR WALLS

"Concrete Ashlar Walls" is the title of a new booklet describing a recently developed type of oncrete masonry construction the chief claims of which are that it is economical to build or decorate and that it possesses excellent acoustical qualities.

Illustrated in this 16-page booklet are residences, schools and other recently constructed buildings in which concrete ashlar has been used for both interior and exterior walls. There is a discussion of color treatments and textures that are possible with concrete ashlar as well as a page showing interesting patterns which are suggested for coursed or random ashlar.

"Concrete Ashlar Walls" may be obtained without charge by requesting it from the Portland Cement Association, 33 West Grand Avenue, Chicago, Illinois.

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DEFENDS FEDERAL ARCHITECT

In an address before the Association of Federal Architects at Washington, D. C., February 18, Ferry K. Heath, in charge of the Supervising Architect's office, defended the government's policy in maintaining its own organization to design and supervise the construction of Federal buildings and asserted that "if any of the bills introduced in Congress to change the established system of doing Federal work are passed, it will be regretted" and in a few years time "there will be another change."

Architects generally will be interested in Assistant Secretary Heath's reaction to arguments which have been advanced in favor of the bills to which he refers and his statements concerning the Department's experiences in employment of private architects to speed up Federal building construction for relief of unemployment. His address is reported in part by the *U. S. Daily* at Washington as follows:

"At this time of fiscal distortion when the officials of the government having the responsibility of providing the revenue are hard pressed and when every proposed expenditure must be carefully scrutinized and its necessity demonstrated, I believe that the money now being expended in the Federal construction program can be defended from any point of view.

"The expansion of the Federal construction program not only

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provides a backlog to private building industries which are practically at a standstill, but enables the government to make available urgently needed space for its activities which are now occupying leased quarters at an enormous expense. It is also recognized that the dollar expended on this class of public works probably reaches more sections of the country and affords employment to a greater population than any other form of government expenditure.

"For 50 years the office of the Supervising Architect of the Treasury has been designing and constructing Federal buildings and has been operating them. At various times there have been movements to restrict the activities of the Supervising Architect's office, presumably in the interest of the private architect and engineer.

"If there were no one but the private architect and engineer to be thought of, the wisdom of this restriction might be apparent, but in all Federal activities the public good should be the first consideration.

"If the powers of the Federal government were being used in actual competition with private architects and engineers and the Federal government was going out after business in no way connected with governmental activities, the charge that the government was competing with the private architect and engineer would be true. The Supervising Architect's Office of the Treasury, however, is doing nothing except han-

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dling the purely governmental building activity.

"It is understandable, however, that representatives of many of the private architects of the country should do whatever they can to restrict the activities of the Supervising Architect. They believe that by so doing they will help some of their members and I think the officials of the architects' organization are only doing their duty in placing the cause of their members before Congress.

"There have been, however, many loose statements made, not only as to what the Supervising Architect's office was doing, but also as to the reasons why private architects should be engaged on Federal projects. Most of these statements have originated in the minds of men who either knew absolutely nothing of the problems of Federal construction or were actuated by the desire to make a point.

"If it is advisable, even though we are not competing with private architects, to turn over all design to architects outside of the Treasury Department, it must be based on advantages to the government which is functioning for the benefit of all the people of the country.

"It is easily demonstrated that it is not cheaper to employ outside architects. We know what we are paying outside architects and we know what it is costing us to do exactly similar work, and we know that the government is saving thousands of dollars in the present building program by conducting the work as we are doing it.

"In the three years that I have had knowledge of the Federal building program I have failed to find any instance where the leading architects in the various communities of the country were doing any better work than the architects in the Supervising Architect's office. There have been a few buildings designed that were charming, but certainly the

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average design submitted by the architects we have employed—and we have endeavored to engage the leading firms in the profession throughout the country—has not in any way improved on the work of our own office.

"The reason legislation was so drawn that the Secretary of the Treasury had increased powers to employ outside architects was the necessity for speed in design. The administration believed that we were entering a period of marked depression which presented an emergency which required a change in our method. This change was made.

"We have employed considerably over 200 architects and they have turned out their designs, working drawings and specifications at varying degrees of speed, but I believe there have been only a few exceptional cases where the speed has exceeded the normal speed of our office, and many cases where we could have produced equal results in very much less time had we had the men to grapple with the task.

"The argument that our office is not familiar with local habits, and customs, and materials, and climate does not hold water, although there have undoubtedly been mistakes made by our office just as they are made in all private architects' offices. And the advantage to local material men because of the employment of local architects has been completely dissipated in the results of the present building program.

"My days are filled with complaints from local producers of materials that the local architect we have employed is not specifying the right material, and some of the biggest battles we have fought have been with local architects to endeavor to induce them to be reasonable about the local material situation.

"So, altogether, in the light of our actual experience, the many advantages claimed by the advocates of the various bills which have been introduced in this Con-

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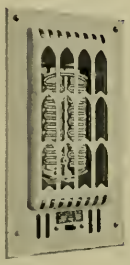

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gress completely disappear. There is no doubt there are advantages to be obtained by our office's contact with some of the outstanding architects of this country.

"I have no doubt that in the years ahead of us the results in the employment of these outside architects during this present emergency will be felt in the design of future public buildings, but, after considering all the grief we have been through during the last few years, I am perfectly certain that if the present law is changed, it will be regretted and in a few years' time there will be another change, for I believe the wisdom of the present method of handling our construction problems has been proven by experience.

"It is possible that investigation will demonstrate the wisdom of a concentration of all government construction under one head as is being proposed in several bills now pending that private business would so organize its construction activities and I am not referring in any way to such a reorganization of our public building works when I say that a change in the present law would bring disastrous consequences."

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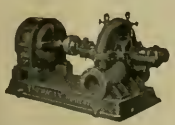

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BILL NAMES SUBCONTRACTORS

A bill to require contractors in submitting bids on Federal building projects to name their subcontractors, material men and supply men, now pending in Congress, has aroused much discussion. Text of the bill follows:

"The contracts in excess of $5,000 in amount for the construction, alteration, or repair of any public building of the United States or of the District of Columbia within the geographical limits of the States of the Union or the District of Columbia, shall be awarded only to bidders whose bids are accompanied by a statement containing the names and addresses of the subcontractors, materialmen and supplymen whose services the bidder intends to utilize in the performance of the work. Such contracts shall also contain provisions for payment by the contractor of liquidated damages for failure to utilize such subcontractors, materialmen, and supplymen in the performance of the work. Sums assessed or paid as liquidated damages for such failure may be remitted or refunded by the Supervising Architect of the Treasury, but only in case it is shown to his satisfaction that substitution for a subcontractor, materialman, or supplyman, as the case may be, was justified by reason of the inability or unwillingness of such subcontractor, materialman, or supplyman, to furnish the materials or supplies, or properly to perform the work as the case may be.

"Section 2. No claim for the remission or refund of liquidated damages shall be granted under this Act unless application therefor is filed within one year after the liability of the contractor accrues. If any such application for refund of any sum paid as liquidated damages is denied, or if no application for such refund is filed within the period provided for filing application under this section, such sum shall be covered into the Treasury as miscellaneous receipts.

"Section 3. This act shall take effect thirty days after its passage but shall not affect any contract then existing or any contract that may thereafter be entered into pursuant to invitations for bids that are outstanding at the time of the passage of this act."

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